American Gas Association MONTHLY

Gas and the New Home Market

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A Boost for Gas Advertising

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Gas Chemical Possibilities

•

Sales Steps in Water Heating

•

It's Showmanship That Counts

December 1939

VOLUME XXI NUMBER 11

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AMERICAN GAS ASSOCIATION

420 Lexington Avenue, New York, N. Y.

American Gas Association MONTHLY

CONTENTS FOR DECEMBER 1939

Housing trends favor the gas industry, but we can't afford to stand still and expect this important business to fall into our laps. It takes such national cooperative programs as the architects' and builders' contests to drive home the modernity of gas equipment. It takes such local programs as those described so ably in our new home symposium by Messrs. Leinroth, Banks and Potter to make the point-of-sale contact and clinch this market. . . . One way to get new customers in the domestic field is by adopting a novel promotional meter plan such as that described by E. V. Bowyer. It worked wonders in Roanoke. . . . If you are interested in the industrial field, that gas equipment show at the national metal show, with its 32,000 industrial gas prospects, should give food for thought. . . . Have we been overlooking something? Gas as a chemical agent offers untold possibilities, says George Segeler, who calls it a "modern miracle." . . . Don't look now but on page 430 Bernie Seiple conducts a seance on water heating—or are we mistaking that steam for ghostly ectoplasm? Anyhow, he has something to say about hot water being as old as Methuselah and other more pertinent matters.

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Cable Addresses: American Gas Association
AMERIGAS, NEW YORK
American Gas Association Testing Laboratories
AMERGASLAB, CLEVELAND

This attractive kitchen, equipped with the latest in gas appliances, was entered along with hundreds of others in the A. G. A. Builders' Contest which featured all-gas homes throughout the country. Located in Chappaqua, New York, it was designed and entered by William J. Creighton, architect, 101 Park Avenue, New York City.

American Gas Association MONTHLY

JAMES M. BEALL, *Editor*

NEW HOME MARKET
. . . . Results of the A. G. A. Builders' Contest

FROM time to time the A. G. A. MONTHLY has reported on the results of the architects' and builders' contests sponsored by the Association to stimulate the use of gas in new homes and to acquaint the country's architects and builders with the latest developments in gas equipment for the home. While the program ended officially with the award of $10,000 in prizes to winners of the builders' contest on August 24, which was announced in our October issue, its far-reaching effect is now becoming apparent.

Many national building, architectural and home magazines as well as scores of local newspapers have carried stories of the prize-winning houses and the gas installations—and the end is not yet in sight. Consequently as a direct result of this program thousands of home builders, owners and prospects are learning more about the compelling advantages of gas service.

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Add to this picture the thousands of builders and architects who participated in the contest and, as a result, gained a more favorable impression of modern gas appliances, and some realization of the program's significance is gained. However, like the snowball which gathers momentum and size as it rolls, its full significance will not be apparent this month or next, but will undoubtedly be felt in years to come. Then, and only then, will its results be measurable in definite terms of public acceptance of gas as the modern fuel for the home.

An interesting phase of the builders' contest is reflected in the viewpoint of the distinguished jury which judged the contest and made its report in the October issue of *The Architectural Forum*. Speaking for the jury, Otto Teegen noted the conflict between creative design and salability as evidenced in the architects' and the builders' contests, the first tending to emphasize novel ideas and the second the builders' ideas of marketable houses.

In this conflict of vision and reality, Mr. Teegen finds that both architects and builders have been right in their approach. The home buyers have not been slow to see the progressive ideas which architects have stressed while at the same time, "they have lent a willing ear to the builders who place most emphasis on economics, resale value and such." The combined efforts of the architects and builders, Mr. Teegen points out, have jockeyed along the building public to keep pace with modern trends.

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The first requirement of the jury in judging the builders' contest was a good plan, the second a good exterior compatible with it. Since living habits and climate lend themselves to different solutions, these factors were considered. While the jury did not consciously direct its efforts to that end, the prize winners were widely scattered geographically and most localities were represented, which in itself is a good point for the gas industry and widens the scope of the contest's influence.

Other important factors considered by the jury were the appropriateness of the gas equipment chosen to the size and cost of the house, the convenience of the plan, pleasing qualities of the design and ease of maintenance.

"A competition of this sort," Mr. Teegen concluded, "is invaluable, inasmuch as it becomes a report from all parts of the country on building conditions and often brings to light outstanding work where least expected. Following as it does, the architects' competition, it throws an interesting light on ideas that were promoted in the first contest which have become realities in the second. A good example is the design which placed first in the first competition and now receives another first prize as a completed house."

Mr. Teegen's comment for the jury proves the stimulating effect of these contests, but in the final analysis it is up to the local gas companies to make the most of their opportunities in the new home market. For information on what other companies have done, we recommend careful reading of the "Symposium on Gas in New Homes" which appears elsewhere in this issue.

National Advertising . . . *A Rock-Ribbed Foundation for Industry Development*

By JAMES F. POLLARD

President, Seattle Gas Company, Seattle, Wash.

THE gas industry is going some place. It is *bound* to go some place for it is bromidic to quote the old adage that there is nothing so unchanging as change. Nothing stands still. The only subject for possible difference of opinion is as to *where* is the gas industry going, and in what direction—forward or backward?

It is my conviction that we are ready to move rapidly into the World of Tomorrow. We have been, through the national advertising campaign, laying the foundation for the kind of streamlined industry we hope to build in that World of Tomorrow. We are on the threshold of the fourth year of that campaign. It has been well said that it is true of advertising and especially of national advertising on an industry basis, that the third year is the hardest. It surely is a test.

After the Honeymoon

Enthusiasm and interest in a new thing frequently will carry a campaign through the first year and into the second. When the honeymoon is over, and the novelty has worn off, the temptation becomes strong to demand evidence of immediate and practical returns. It is just about the end of the third year that the practical, but skeptical begin to rear back and say, "Now come on—show me!"

At about this time there is a tendency to discount the accumulative and long-term values that are being created. Yet—if we remember rightly, that is what we started out to get. Each year's advertising is an investment upon which future advertising can build.

Advertising an industry is like building a great structure. Most of the *initial* effort is expended underground. Men must plan and sweat down out of sight, burying the fruits of their labor where it never will be seen. But it is their work which provides the essential foundation upon which a superstructure later can be reared. That, however, can come only if the foundation has been well and truly laid.

Now and then an industry loses heart while it still is working on the foundation. Its people can't see the fruits of their labors. They become impatient and discouraged. But, if they quit there, they will *never* see the structure they started to build—and the fruits of their previous efforts are about as valuable as any unused and unfinished foundation.

Proving the Foundation

What sort of a foundation has your committee to conduct national advertising laid? Is it bedded on solid rock or on shifting sand? Has it a wide enough base and sufficiency of steel reinforcing rods properly placed? Is it honestly composed of a mixture containing the proper proportions of cement, sand and gravel? The cement of confidence of all units of the industry in each other and willingness to sacrifice, if need be, immediate selfish advantage for the meeting of the broad national needs of the industry as a whole; the sand of grit and courage to cast more bread on the waters in an unshaken faith that it will come back many fold; and the gravel of rock-ribbed strength that will not easily crush and let you down. Have we created a foundation upon which we can confidently build the superstructure of a great industry effort and have we got the guts to do it? By what tests can we prove this foundation?

All of these tests have been mentioned time and again in previous discussions of national advertising. Let us list them in brief summary.

First: After a brief period of three years of effort the sales of ranges and water heaters are on the increase and the general consensus of opinion is that a substantial part of this growth can be attributed to the national advertising campaign.

Second: It is easier to sell the idea of the all-gas home which, of course, opens the way for a great many practical bread and butter sales.

Third: It has put competition in many quarters distinctly on the defensive. In fact, it and the CP range promotion have driven some of the largest of them to a type of mud slinging publicity which is most regrettable.

The other day one of my friends who is engaged in another, *very* closely allied industry and one of our keenest competitors, knowing of my deep interest in A. G. A. national advertising said to me, "You should have been present at our convention the other day. You would have gotten a kick out of the fact that the principal topic of discussion was, 'why can't we get together and work cooperatively like our friends in the gas industry?' "

Competitors Apprehensive

Recently I received an excerpt from *The Black Diamond,* published by the coal industry which described the national ad on gas in the two fairs and then said, "The American Gas Association is doing a fine and intelligent job for its members. Why can't the same thing be said of the National Coal Association and the coal-carrying railroads? Maybe a glance at this ad will make the point register. This aid of modern merchandising cannot be ignored much longer by the coal industry or the fuel of tomorrow will not be coal."

Fourth: It has done more than any other single effort to improve the public attitude toward the gas business.

Address before A. G. A. Convention, New York, N. Y., Oct. 9-12, 1939.

Two years ago our agency made a survey by talking to a large number of house wives to determine just what was their attitude toward gas compared to competition. This year a check up to test the change which may or may not have taken place was made by asking the same questions of substantially the same group of women with the following results:

Among our own customers there was a higher degree of loyalty to gas. In answer to the question, "If you were buying a new stove, what kind would it be, gas or electric?" This time 79.1% said gas against 76.2% in the former survey—a small increase of 3%, but important because it showed a distinct reversal of trend.

These women were asked, "Are you familiar with the features of the new gas ranges?" Two short years ago 37.8% said yes. This year over 52% said yes. Are they reading our ads? Is CP going over? I'll say it is.

Fifth: It sets the stage to help the local interests involved in the gas industry. It helps the companies, the dealers, the manufacturers and others to combat the critics of the industry.

A Sounding Board

After all, even Herr Hitler and Signor Mussolini need sounding boards in order that their human voices may be equal to the jobs they have to do. Each one of us as he speaks his own piece in behalf of his own business and his own industry in his own town is strengthened by the sounding board of this national advertising campaign behind him. It gives increased resonance and volume to what he has to say. It is an intangible, but very real factor in influencing public opinion.

Sixth: It has encouraged local companies, dealers, and others to do a stronger promotion job of their own. It keeps many dealers sold on the desirability of keeping a line of gas appliances in their business when they might otherwise be doubtful.

Seventh: It inspires interest on the part of radio commentators and other commentators and inspires that editorial interest on the part of women's magazines which is a perfectly natural thing to understand. Think well of yourself, speak well of yourself, carry yourself with dignity before the world and the world, itself, will begin to add to your dignity.

Eighth: It has given investment bankers a new viewpoint on the gas business, and has impressed them with its stability and aggressiveness. Witness the article recently published in "The Index," authoritative periodical publication of the New York Trust Company, entitled "The Gas Industry—Oldest Utility Gains New Vitality." This article says in part:

Mr. Pollard, whose work in starting the national advertising campaign won for him this year's Charles A. Munroe Award, goes to bat again in the accompanying article—this time for increasing the scope of that most successful endeavor

"A three-year $1,500,000 national cooperative advertising campaign, financed by more than seven hundred gas and gas and electric companies, is credited not only with helping greatly to increase sales of gas itself, but with improving both the quantity and quality of advertising by appliance manufacturers and by local companies and dealers. The success of this advertising program is attested by the announcement of a three year extension of the campaign to July, 1942 . . . . the gas industry seems to have reason to face the future with confidence."

Ninth: It has attracted the attention of manufacturers who are interested in what happens to and in the American kitchen, for example, the manufacturers of glass-bricks, linoleum, Monel metal and others. A new respect for the gas industry among other industries enlists new allies in its behalf.

Tenth, and finally, and in my opinion, of the utmost importance: It has stepped up the morale of the entire industry in all of its affiliations.

By these ten criteria the foundation already laid stands the test and proves that it is both stable and strong and capable of supporting any superstructure it may be called upon to carry.

What of the future? I don't know. I am not a seventh son of a seventh son, nor a prophet in his own country or anybody else's country. But I do know of several gas companies in my own part of the country that could do with a few more profits than those shown in the earnings statements of the last few years and I venture to say that those gathered here today could mention a few more sections of these United States where the same thing could be truthfully said about the gas companies there.

Planning the Superstructure

The answer to the question "What of the future of National Advertising?" is not mine to make, but you who represent this great industry of ours will answer it in one way or another and every other unit in this industry will have a part in answering it. How well it is answered will have a most important bearing on whether or not we induce those profits I mentioned a minute ago to come and abide in our country.

What will your answer be? What sort of superstructure will you build on this three-year foundation? What sort of a superstructure is called for in our day and in our neighborhood?

That is a good place to start planning our superstructure. Shall we not take into account the nature of the surrounding structures before we determine the design of our own? Let's see what they are:

It seems to me we are surrounded with skyscrapers. Right next door to our lot is the American Telephone & Telegraph Company with its $1,098,106 tower of annual advertising in national magazines alone, a little more than 1% of its total gross income to tell the world about a service that has no competition in the field of communication.

Compare this to our humble foundation of $321,821 worth of general magazine space of A. G. A. advertising which is but four one-hundredths

Advertising That Functions Without Friction

"The gas industry is sold on its national advertising effort and this effort has been kept free from those internal bickerings and dissensions that can so easily wreck a cooperative program. The American Gas Association can serve as an affirmative example of the factors involved in making such a cooperative drive a success. Especially since the Association has now advertised cooperatively for the last three years and has recently authorized a continuation of its program for another three years.

"This program has functioned internally without friction. It is, perhaps, in that fact that we can find a key to the success or failure of all cooperative programs. For cooperative efforts evidently must achieve two successes—external and internal—and do more than any ordinary advertising venture."—*Printers' Ink,* October 6, 1939.

of 1% of the gross income of the gas industry.

Whose is that veritable Empire State Building of national magazine advertising directly across the street? It is the General Motors Company with its $4,121,649 structure of annual magazine advertising, topped by a $144,000 penthouse of radio broadcasts each year.

In the next block are the commanding edifices of the three great tobacco companies, constructed to the tune of two million, two and a half million and two and three quarters million dollars per year, respectively, in the magazines, topped by a million, a million and a half and two and a half million annually for radio time.

In the street behind us are the group representing the soap makers with Proctor and Gamble's $1,900,000 in the magazines and more than six million on the air and Palm Olive's one million, two hundred thousand on paper and one million, nine hundred thousand over the airways.

I might mention dozens of other majestic superstructures that tower all about us forming a great metropolitan canyon of buildings in the midst of which the gas industry must rear its own head and make its bid for recognition in a modern world of business giants.

Suffice it to say, that I have statistics in my files on fifteen of the leading national advertisers whose average annual expenditures in the national magazine field alone are .56 of one percent of their combined gross incomes and .7% more for radio time compared, let me repeat, with our .04% for the A. G. A. magazine campaign and a small, but valiant .01% for radio before the Mystery Chef campaign was dropped. To put it another way, the others are doing more than twenty-five times as much public shouting through these two media as we are doing in proportion to the size and means.

Cost and Competition

But national advertising costs money. It costs *lots* of money. If done right we must *spend* lots of money. If not done right, in my opinion, we will just see our business slowly die of attrition. We have been talking about what individual companies have been doing. What about other industry *Associations?* Here is a list of ten of them, topped by the California Fruit Growers' $2,200,000 Sunkist campaign, about seven times as great as ours. The fruit growers must believe it pays because they have been doing it for many years; the anthracite coal industry with a million and the little ice industry! If I asked you, nine out of ten would say the ice industry is on the skids. Is it? It is carrying on a $750,000 advertising campaign every year. I won't take time to mention more, except to say that six out of the ten trade associations are spending more than half a million dollars for space only. We spend $320,000.

Do I hear someone say, "Why all this talk about these other industries, we are not in competition with them?" My answer, in the tones of the well known radio voice, is, "Don't you believe it." The gas industry is head over heels in competition with every other industry that makes a bid for the consumer's dollar.

And how are we meeting that competition? Eight insertions a year out of 52 issues of the *Saturday Evening Post;* five insertions a year in each of four women's magazines and four distinctly home interest magazines out of how many magazines that are demanding and receiving the attention of the public? Just cast your eyes over the racks of any magazine stand and estimate the number of magazines that Mr. and Mrs. American Public are buying and, therefore, reading and multiply the number of weeklies you find by 52 and the monthly magazines by 12 and then stack our little 48 insertions at a cost of $321,000 up against your total calculation. What kind of a bid is our $800,000,000 industry making for its share of the consumer's dollar and how much attention will it get? No soft paper magazines on our list, no movie magazines, no parents' magazines, no Breezy Stories, no True Confessions, no magazines for men only—these are the magazines that women are reading today —and women are our mass market. No picture magazines—*Life, Pic, Look* and all the rest.

Manufacturers' Advertising

Perhaps some one will say that it is unfair to compare the amount spent by the A. G. A. Committee alone with other advertisers because some of the manufacturers are also doing national advertising.

That is true, but the percentage ratio of this advertising effort to gross revenue referred only to gross revenue for gas sales, not including appliance sales.

All honor to the manufacturers of gas appliances for the national advertising they are doing. Here is what it amounted to for the last three years:

NATIONAL MAGAZINE ADVERTISING BY GAS APPLIANCE MANUFACTURERS AND A. G. A.

	1936	*1937*	*1938*
Gas Range	$177,541	$260,172	$198,489
Gas Heating	22,021	54,681	7,451
Gas Refrigeration	291,000	436,575	122,195
A. G. A. National Campaign	327,765	322,237	321,821
TOTAL	$818,327	$1,073,665	$649,956

Very good, but the combined totals you will agree are not nearly enough. General Electric alone spent over $1,500,000 in national magazines and $392,000 on radio last year. If all electric advertising were totaled it would be several times this much.

A while ago I mentioned the strength of our foundation which depends upon what I called the cement of mutual confidence that binds all units of our industry together and submerges immediate selfish interest of any one unit for the general good of the whole. It was that spirit which moved the gas utility men in the beginning to say, that since there then seemed to be no practical way for the appliance and equipment manufacturers to work out a financing campaign whereby they could contribute equitably either as individuals or as a group to this campaign, the utilities would themselves step out and take up the white man's burden and finance it themselves until it was well under way and had proved itself of value to both branches of the industry in the hope that then the members of A. G. A. E. M., which was then just being launched, would come in and do their share, thereby making it possible to expand the effort and make it even more effective.

I feel that that time has come and that the utilities now have a right to look to the manufacturers to bring that initial hope to fruition and to make a substantial contribution to this campaign in addition to what they are doing to advertise directly their own particular products, excellent and important though that support be. The utilities who pay for the A. G. A. campaign also have their own direct local advertising to provide as well as their contribution to the national. All are profiting by the national campaign and all should be contributing to it and I know that if we of the utility branch let them know that we feel that way—our brethren in the manufacturing branch will gladly do their share.

I am delighted to hear that they are already seriously studying in the water heater division of A. G. A. E. M. ways and means of raising $100,000 a year for this purpose or to start a cooperative campaign of their own. I hope they will not scatter their fire, but will put it into the A. G. A. campaign already so well and so effectively working.

Public Relations in Advertising

"The American Gas Association can lift the debate on public and private ownership to a broad plane of basic economic principles. Now in its fourth year, the advertising of this association, according to a recent report, has reversed a long-term downward trend in the use of gas per domestic customer; has improved the morale of those in the business; has created a new respect for the industry on the part of the public; and has resulted in a better opinion of gas securities as investments by representatives of financial houses, life insurance companies, and others in high places."—H. K. BOICE, Benton and Bowles, Inc., New York, N. Y., in an address before the American Petroleum Institute in Chicago, Ill., November 16, 1939.

Gas vs. Electric Ranges

"For the last two months now, the Modern Kitchen Bureau has been exciting the electrical appliance industry with its vigorous campaign on electric ranges. Manufacturers, distributors, dealers and utilities have enthusiastically promoted the stoves and the sales curve has been upward.

"This activity has in turn spurred the gas range manufacturers to greater efforts. Gas ranges are 38 per cent ahead of last year and are growing in sales ratio over electric from 3½ to 1 in 1937 to 4 to 1 now. By the end of the year, more than 1,000,000 gas ranges will have been sold as against 275,000 electric types. Some 25 makers will spend $110,000 next year to push Certified Performance gas ranges, a budget doubled in size over 1939's. Two drives will be conducted, one in the spring and one in the fall. The range promotion will tie-in directly with the $1,500,000 national advertising program of the American Gas Association in 14 magazines and 23 trade papers." —*Advertising & Selling,* November, 1939.

How about radio? One of the most powerful media in the world today for influencing and molding public opinion. What is our great $800,000,000 industry doing about it? Nothing, on an industry wide basis. There are no fireside chats about the importance, convenience and advantages of our service to compete with those little pills that "do the work of calomel without the danger of calomel." A few of us did do an excellent job of radio advertising with the Mystery Chef and we got dollars of returns for pennies spent, but apparently we couldn't hang together on *that* and it had to be dropped.

Radio Program Needed

But, radio *cannot* be included in a campaign financed by 4c a meter on 70% of the gas meters in service. I have already pointed out the pitiful inadequacy of coverage we get in the national magazines in which the committee has, I think wisely, concentrated its expenditures of this fund. It should have double the funds for magazines and as much more as is now available to it for a bang-up nationwide broadcast. Then we would be getting somewhere.

But, what do we get? The Committee asked for a modest 50% increase this year and this increase was approved by the A. G. A. Executive Committee and the industry was polled by mail and the answer was: "It can't be done this year." How I hate that word can't.

This year is just as good as any other year for increasing our campaign. No year is auspicious for an added appro-

priation for anything. Maybe next year we won't have a World's Fair to support, but there will be something else just as important and probably just as expensive—maybe a war—and the next year something else. If we wait for a year when we have so much money we won't mind spending more for advertising it will *never* come and if it should we would be getting so much business we wouldn't need any more advertising. Short as profits may be, hard as money may be to get, *now* is the accepted time, *now* is the day of salvation.

Money *can* be found for the expansion of this campaign and found now if it is good for the industry and you gentlemen who control the destinies of the industry are too smart not to see that it *is* good for the industry.

What are the future needs of A. G. A. National Advertising? As I see them they are:

For the Industry

More insertions in more magazines and more colors.

More media, including by all means an adequate nationwide radio program and, if possible, Sunday supplements and coordinated periodical promotion campaigns on a nationwide basis.

Advertising that will create favorable public opinion toward gas service and gas appliances.

Advertising that reflects modernity on both the fuel and the appliances through which it is used.

Advertising that will lay the foundation for selling more gas by protecting the present load against competition and convert non-users to new users.

There are 9,000,000 obsolete gas ranges in use today. In my town one electric merchandiser is offering a dollar and a quarter mixing bowl as a gift to any woman who will give him the names of two owners of gas ranges over five years old. Why do they want these names? You guess.

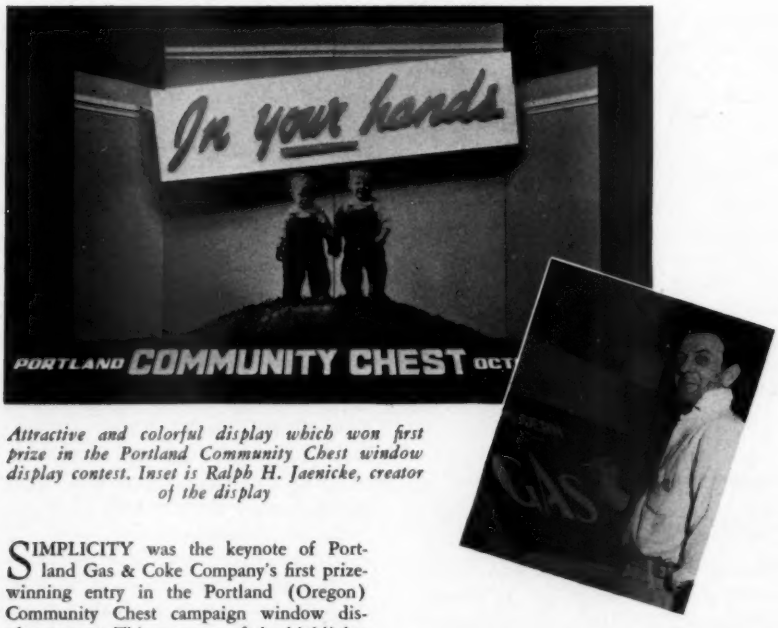
Advertising that will cause present users to use more gas—that will influence more women to do home cooking.

The Needs From the Industry Are

More money.
More local tie-in.
More faith.

The 4¢ per meter should not be increased 50% some other year, but it should be increased at least 100% *this year* and another 50% in the very near future and not only 70% of the meters of our industry should be included, but 100%. It isn't a question of "Can I afford it?" It is a fact that I can't afford not to do it.

Portland Company Aids Community and Wins Display Prize



Attractive and colorful display which won first prize in the Portland Community Chest window display contest. Inset is Ralph H. Jaenicke, creator of the display

SIMPLICITY was the keynote of Portland Gas & Coke Company's first prize-winning entry in the Portland (Oregon) Community Chest campaign window display contest. This was one of the highlights of the Portland Gas & Coke Company's participation in the Community Chest activity, in which the 685 members of the organization contributed a record total to the $507,000 fund which supports the work of 45 welfare organizations.

Covering one full street level display window in the Public Service Building, the entry featured a colored lifesize reproduction of two small boys from Waverly Baby Home, a Community Chest agency. The background of the window was a combination of red and white, with the placard above the heads of the actual size cutout reading "In *Your* Hands," slogan of the Community Chest campaign in Portland this year. The immediate foreground read "Portland Community Chest October 19 to 30."

Ralph H. Jaenicke, display manager, designed the entry in cooperation with Robert B. Elliott, sales promotion manager of Portland Gas & Coke Company. Mr. Jaenicke, who has been in the display business since 1913, said that inspiration for the display originated in thinking of his two boys.

Mr. Jaenicke has been with Portland Gas & Coke Company three years. Formerly from the middlewest, he has worked with outstanding window display men.

Wartime Difficulties

SERIOUS problems in manufacturing and selling gas appliances in England have arisen since the war, according to reports in the British trade journals. It appears that, with gas rationing and restricted spending power of the consumer, the inducement to sell more gas appliances is lacking. Also, there is the problem of getting materials of construction which may become scarce.

Some of the larger manufacturers have adapted themselves to the situation by applying their research and technical skill to the problems of maintaining their business in spite of difficulties, particularly in the direction of obtaining substitute raw materials where necessary.

It is reported that several firms are so inundated with orders for gas appliances for Government defense departments that they see no possibility of meeting the limited demands of the gas industry.

Gas Load Building . . . *A Promotional Meter Plan Strikes Pay Dirt*

E. V. Bowyer

- **In the accompanying article, Mr. Bowyer looks at the results of the promotional meter plan and finds them good. New customers, 665 of them in the first nine months of this year, a yearly gain of six and one-half million cubic feet in gas sales, and greater acceptance of gas service in Roanoke, are among the accomplishments credited to this unique plan.**
- **The increasing attention of the gas industry to the non-user and the low income customer makes Mr. Bowyer's contribution especially significant. Other valuable information on this group of customers is contained in the A. G. A. convention paper by Hudson W. Reed, executive vice-president of The Philadelphia Gas Works Co., which the MONTHLY hopes to reprint in an early issue.**

By E. V. Bowyer

Commercial Manager, Roanoke Gas Co., Roanoke, Va.

IN all cities where gas is distributed and sold, a number of homes on existing gas mains are either non-users because of the fact that a service was never run into the house to make gas available or the customer was never sold on gas service or else the meter is missing on services formerly used. The problem is how to reach these non-users who, in many cases, fall in the low income bracket with prospective customers using coal, oil or wood, and in the better income bracket, using electricity.

New Customers Added

For the first nine months, our company has gained a net of 665 new customers from January through October. One would think this gain came through main extensions to new homes. It is true that 12% of our new customers did come from main extensions. However, it has been our experience that when one builds a new home he is already a gas user even though new merchandise is sold trading in old equipment.

Then, the question arises—where and how did we obtain the balance of 87% of our new customers? These came from reviving dead services and replacing competitive fuels as mentioned above.

In order to set our house in order, here's how we started. First, we made a complete customer survey which was reported in a brief article in the A. G. A. MONTHLY, October, 1938. Second, we inaugurated a new meter and dead service campaign. Third, we provided a means of reaching our low income bracket prospective customers.

After completing the customer survey, the non-users and prospective customers were tabulated and turned over to each territory salesman with a credit report and information as to the best way of reaching these customers. In some instances, it was necessary to offer trades on comparatively new electric ranges. In most cases, however, the regular trade-in allowance of $15 to $20 enabled us to trade the wood, coal or oil range for a modern gas range.

The cost of securing the prospective non-user for gas service now on our existing gas lines or with a dead service going into the house was relatively small. Perhaps in some cases, it was necessary to renew the old service or run a new service and install a meter which goes into the capital account.

In the past, the cost of main extensions has been looked upon by most utilities as being too costly per customer. We believe this is largely due to the lack of systematic tackling of our main extension problem. When the cost of securing new customers through main extensions exceeds $100 per customer, little progress has been made and it is generally looked upon as being unprofitable business. This year in Roanoke, we secured 81 new customers through main extensions at an average cost of $79.86 per customer. And, on the basis of actual revenue experienced to date for the first nine months, the cost would be retired in less than three years.

Perhaps we have strayed from the subject in dwelling on main extensions but since some of our customers did come from this source we thought it best to explain the procedure.

Reaching Non-Users

Let's get back to the subject—load building. The survey in Roanoke, after culling out the "dead wood" and undesirables, revealed 1469 homes that would make us desirable customers. Over 50% of these were home owners. No reductions were made in the gas rate in order to reach these non-users. Neither did we put on additional salesmen, for during the last two years we have been successfully operating one salesman to approximately 900 meters. This broader coverage has enabled us to concentrate more definitely; thereby, increasing our sales volume and, much to the surprise of everyone, increasing the annual earnings of all salesmen.

In addition to this, we have taken on eight cooperative dealers displaying and selling the same appliances as recommended by the gas company. We did not let up our standard of credit. We did not lower our mark-up. We did install the promotional meter plan as something new and different to interest the non-users.

This plan is a help for all salesmen if used properly. It enables them to put their foot in the door and sell the idea of modern gas fuel by telling the customer of the plan that is being offered by the gas company.

We will explain briefly the promotional meter plan. The name was selected strictly for promotional purposes. It consists of a prepay meter with a $2.50 wheel and on the first steps of our general rate of $1.50 per thousand. For every quarter placed in the meter, 15c goes for gas and 10c as payment on the range. The minimum gas bill is 85c per month. No meter deposit is required. On approved credit we require only $1 down payment on the gas range. In the event the credit does not warrant passing, an additional $2, $3 or $4 is requested in the form of a down payment.

Meter Plan Idea Spreads

The idea spread like wild fire over the city and once the prospective customer, who in many cases had never used gas before or thought gas was too expensive or the like, became interested and visited our showroom, he often signed up on the regular purchase plan with regular meter and terms, less meter deposit where credit was passable. The promotional meter plan also enabled us to reach those in the low income bracket who formerly purchased cooking fuel weekly and on whom a monthly gas bill and monthly merchandise payment would work a hardship.

In spite of the unusual large addition of new customers, 665 net after losses, we have only 164 active promotional meters in service. The average amount of gas used per customer per month is 1418 cu.ft. The average revenue per customer per month is $2.12. Repossessed ranges to date, 8. Repossessed ranges on hand, none.

We have discontinued putting out any ranges without heat controls and have standardized on a complete range, installed for the Net sum of $69. For nine months, we have gained a total of 389 new customers due entirely to the many advantages of the promotional meter plan. Our yearly gain in cu.ft. of gas sales is 6,619,224.

This plan was not only a stimulation in increasing new customers and selling more gas ranges but added to the sale of refrigeration, water heating and heating in both commercial and central house heating jobs.

Incidentally, over a period of nine months, we have installed approximately one hundred overhead unit heaters partially as an outgrowth of increased acceptance of gas service in our city. This was done without any rate reduction or letting down the bars in any manner.

The customer who has a better type range and is a satisfied user will spread the news by the grapevine route to those with old appliances—whether it be an old gas range or other method of outmoded cooking equipment. This is our best pass key in contacting customers for replacements and trying to gain new customers. The better type salesman, properly trained, is always trying to sell the "plus" of our service and better merchandise.

If any company will follow the promotional meter plan as a method of gaining new customers, success as we have experienced it in Roanoke is bound to come.

Gas Industry Loses Noted Leader

Addison B. Day

As this issue of the MONTHLY goes to press, word has just been received of the death on November 28 of Addison B. Day, former chairman of the board of the Southern California Gas Company, Los Angeles, and an outstanding figure in the gas industry for many years. At the time of his retirement from active service on September 1 of this year, Mr. Day was the oldest employee in point of service in the Los Angeles company.

A native of Chicago, Mr. Day began his business career with the old Los Angeles Gas Company in 1895. He rose through various positions to that of president and general manager in 1928, and became chairman of the board upon the merger of the Los Angeles Gas and Electric Company with the Southern California Gas Company in 1937.

Mr. Day has served as president of the Pacific Coast Gas Association, director of the American Gas Association, and was also a director of the Union Bank and Trust Company and Pacific Indemnity Company.

HEAR YE! AMATEUR PHOTOGRAPHERS!

WE NEED PICTURES, not just any pictures, but striking photographs with unusual artistic and pictorial qualities. But they must be pictures in some way connected with the gas industry. Here's our proposition. We hope you'll like it and send in samples of your work.

DURING 1940 the AMERICAN GAS ASSOCIATION MONTHLY is offering $5.00 for each photograph accepted for publication as a frontispiece illustration. This offer is open only to amateur photographers who are members of the Association or who are employed by member companies.

PHOTOGRAPHS will be selected principally for their pictorial excellence but *must* be related to the gas industry. Glossy black and white prints not less than 8″ x 10″, unmounted, are preferable. Vertical rather than horizontal pictures are preferred although not required. Please look through past issues of the MONTHLY before taking your pictures.

THE *MONTHLY* will not accept photographs which have appeared in other publications but will place no restrictions on their use following appearance in the MONTHLY. All photographs will be returned to the owners at the earliest possible date.

IT IS SUGGESTED that company camera clubs or other photographic groups consider the possibility of sponsoring local "print nights," with the winning prints being submitted as above described.

PLEASE SEND all photographs to: American Gas Association Monthly, 420 Lexington Ave., New York, N. Y. Be sure to exercise care in wrapping so that pictures will not be bent or otherwise marred.

A Modern Miracle . . . *Gas Is Chemical Agent with Unexplored Possibilities*

By C. George Segeler

Engineer of Utilization, American Gas Association

A NEW vision unrolls before us! More than 100 years ago, gas was first introduced for lighting, and since practically everyone wanted better light when darkness fell, a vast market stood ready to receive gas. We made good our first claims and became the accepted method for light.

Years rolled by without much change until rumors of a still better method of lighting jolted our industry sufficiently to realize that gas was a good source of heat. Once this was put across, the gas industry sprouted new branches and expanded as it never had before.

Now, another possibility opens before us. Gas is a chemical agent. Its possibilities as a chemical agent have not been fully explored because people are not yet accustomed to think of gas as a chemical agent, although many applications are already in use.

Chemical Applications

Sheet steel annealing which has made possible the deep drawn turret top automobile is processed by the protective chemical action of gas. Metals are reduced from various ores by the chemical properties of gas. One company protects anti-freeze production by neutral atmospheres utilizing the chemical nature of gas. Paint manufacturers are bubbling gas through linseed oil boiling to keep it stirred without deterioration. Even the decarburizing action of gas has just been converted by a Swedish Count into a process for making steel out of granulated pig iron.

Yet the concept that gas has chemical properties of value has not stimulated the gas industry as much as it should. Gas is sold as an accessory whereas it really is the primary agent in producing many of the heat-treating results of today. Even the lordly electric furnace must use the chemical action of our gases to make a modern product. We have in our hands a most potent weapon which should be developed just as fully as we have developed gas for heat.

Furnace atmosphere forms one branch of this chemical activity, and we may, at the outset, realize that there are certain things which it is and certain things which it is not.

It is not a panacea for all manufacturing difficulties.

A Valuable Tool

It is a very valuable tool, properly applied. It permits the production of fabricated metals unaltered from the condition in which they entered the furnace. Its cost is reckoned high unless its merits are thoroughly evaluated.

It is not completely and adequately understood by the manufacturers of furnace and atmosphere equipment, making it necessary for us to rely on our own observations.

It is not a simple subject. Hale A. Clark, industrial engineer of Detroit, states—

> "The progress made in recent years in the uses of gas as a chemical rather than a heating agent has us still in a maze. We find ourselves at a loss to give positive answers to inquiries as to exactly what may be had by the combustion of our gases. Heretofore we considered we knew all the answers."

Every heat-treating operation takes place in a gaseous atmosphere of some kind, but only our gas can make a good atmosphere. The simplest atmosphere is that produced by the combustion of gas in the furnace. Formerly, such atmospheres were called oxidizing, neutral or reducing, but there is no real standard defining the meaning of these words. The terms ought to be dropped, but as long as they continue in use, I define them as follows:

An oxidizing atmosphere is one in which the oxygen concentration is more than five hundredths of a per cent and the carbon monoxide and hydrogen less than this amount.

A neutral atmosphere is one in which the oxygen concentration as well as the carbon monoxide and hydrogen concentration is less than .05%.

A reducing atmosphere is the reverse, and is one in which the sum of carbon monoxide and hydrogen exceeds five hundredths of a per cent and oxygen does not.

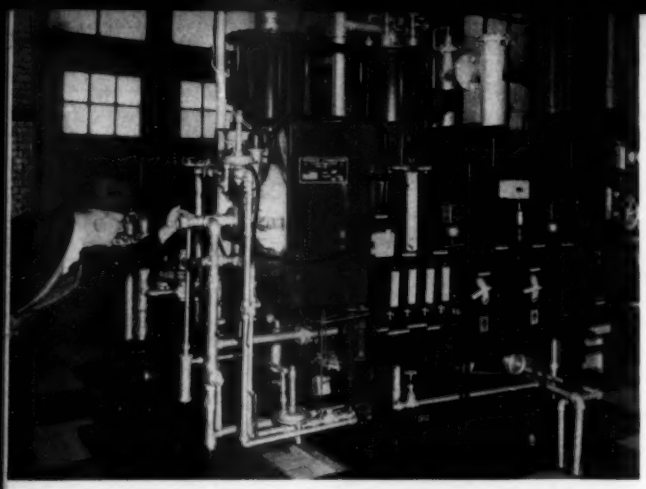
The significance of these terms is limited as far as metal heat-treating is concerned, but the usefulness of the simple, direct gas atmosphere must not be underestimated. It is self-evident that furnaces with the combustion products in direct contact with the work represent the largest number of industrial heating operations. A certain amount of deterioration of the work is unavoidable in such atmospheres, but it may be cheaper, in some cases, to allow this action and to remove or refinish the surface rather than to use the more elaborate special atmosphere equipment.

Laboratories' Tests

Tests which the A. G. A. Laboratories have run show that manufactured gas will not burn in a furnace when the burners are adjusted to produce more than 12% carbon monoxide and 15.6% hydrogen. This requires about one-half the air needed for complete combustion.

As far back as ten years ago, cheap special atmospheres were made by partially burning gas in a separate unit, supplying this product to protect annealing of low carbon steel. It worked. It worked wonders for sheet, strip, and wire. But it does not work for medium or high carbon steels because water vapor, carbon dioxide, and other constituents deteriorate these steels. Per-

Address before New England Gas Association, Fitchburg, Mass., Nov. 17, 1939.



Fifteen hundred cubic feet of natural gas is converted each hour to supply an inert atmosphere for agitating and blanketing linseed oil boiling kettles at the Glidden Paint & Varnish Co., Cleveland

haps you know of instances where it does work for such products, but the time required must be short or else the temperature relatively low.

The manufacturers of prepared atmosphere equipment soon provided means to remove carbon dioxide and water. Yes, even down to dewpoint of —40°, but the results were frankly disappointing for medium or high carbon steels. Apparently the one best general atmosphere known today consists of nitrogen, to which 5% to 10% carbon monoxide and a small amount of methane (0.1%) have been added, which forms an inert gas with excellent protective properties. The carbon monoxide keeps the steel from scaling or staining and the methane prevents the tendency for decarburization.

Commercial Methods

Broadly speaking, there are now nine general commercial methods of producing special atmospheres. Perhaps, it will be helpful to enumerate these briefly:

1.) *Partial burning of gas* followed by suitable purification. I have already mentioned the principal application of this type of atmosphere for annealing low carbon steels. It is also applied to annealing of copper tubing, wire and for hardening some of the S.A.E. steels.

Within its limitations, a protective atmosphere of this type is better than direct heat in most instances. It is hard to discuss this subject without these reservations constantly in mind—that time and temperature are vital points to consider in generalizing on the effect of an atmosphere. It must also be remembered that the atmosphere gas entering a furnace and leaving a furnace may be quite different.

2.) *Cracking or pyrolysis of gas.* The cracked gases are very much higher in B.t.u. content and in reducing constituents. They have special application for carburizing and for heat-treating certain high carbon steels. This is the type of atmosphere which would undoubtedly have an important application for chemical reduction processes. Sometimes gases can be used as they come from the city mains without modification—natural gas especially.

3.) *Cracking anhydrous liquid ammonia* produces a gas about 75% hydrogen and 25% nitrogen. The principal application, up to the present time, seems to be in the stainless steel field and for fabricated parts which can justify this relatively high cost atmosphere. It can be modified in various ways to produce any desired nitrogen concentration.

4.) *Nitrogen type atmospheres.* A great deal could be said about atmospheres of this character which, theoretically, are neutral to most materials. Practically, it is hard to keep the nitrogen from becoming contaminated in one way or another. The most promising commercial possibilities lie in producing nitrogen in a generator using gas as a raw material and then removing all oxygen, carbon dioxide, and water, leaving some carbon monoxide, hydrogen, and methane behind. Broadly speaking, nitrogen atmospheres are best where the neutrality act is desired and not so good where a little favoritism must be shown to one side or another.

5.) *Treatment of natural gas* with steam and some air, in the presence of suitable catalysts followed by the removal of carbon dioxide and water, has been developed for the production of an atmosphere with high carbon monoxide, hydrogen, and nitrogen content. The chemistry of producing this type of atmosphere can work in reverse. Hydrogen easily reacts with CO_2 to produce water. This can ruin the effectiveness of expensive dryers.

6.) *Cracked methanol* has been used to make an atmosphere high in hydrogen and carbon monoxide which is protective for the shorter treatments but which is decarburizing in its action for the high carbon steels. This action has been noted by many observers and is one of the principal reasons why pure hydrogen, which can and is being effectively used for certain work, is not recommended for the higher carbon steels.

In all of these methods of producing special atmospheres, it is hard to keep traces of moisture out. It is all too easy for oxygen to enter and if hydrogen is present, then water is also. Oxygen gets in by many ways. It creeps in through wash water, through extracting solutions, by leakage, and so on. The water so produced is practically impossible to eliminate and generally troublesome.

7.) *Charcoal producer gas and its modifications.* It is a type of atmosphere which has been very popular in Europe and has now been introduced into our country for the tool steels, molybdenum steels, etc. You know it under the name "Char-Mo." Here, again, the question of water vapor is important, and I believe that the latest units preheat the charcoal to purify it before producing the atmosphere gas.

Have any of you noticed the recent advertisement for furnaces designed to treat high speed steel and high carbon tool steel at lower cost than is possible with a charcoal gas generator? This cheaper procedure requires removal of the decarburized surfaces, but we should do all we can to sell equipment which will give perfect results if we hope to achieve our objective of gas as a chemical agent.

8.) *Protection by coating.* Various methods have been tried such as copper plating, coating with lithium carbonate, coating with various porcelain frits and glazes. All of the methods have certain objections but the idea should be encouraged as it is a definitely satisfactory procedure and would permit the use of direct-fired gas furnaces. Possibly, these coatings would have their greatest value in plants where it would only be occasionally necessary to heat treat with protection. Under such circumstances, a prepared atmosphere furnace might not be justified and the coating would do the trick.

9.) *Vacuum furnace.* Practically unknown in this country except for electric light filament manufacture, the vacuum furnaces are used in Germany and, to some extent, in England, but they do not give the perfect results that you might expect. It is difficult to keep out traces of air, and

Highly oxidizing atmospheres make perfect spark plugs

Preheat and superheat furnaces at the Commercial Steel Treating Corp., Detroit, using charcoal gas atmospheres

Bright annealing copper tubing in a direct gas-fired furnace at the Mu Brass Co., Port Huron, Mich.

the vacuum seems to accentuate the action of oil films left on the work—something that must not be overlooked in all special atmosphere furnace practice.

It is not practical, in the short time of a talk, to attempt to outline the many factors which are involved, but apart from the material treated in every atmosphere application

Time
Temperature
Surface Areas
Type of Combustion Chamber
Composition of the Atmosphere
Rate of Flow of the Atmosphere
Sources of Accidental Contamination

are involved. The existence of these factors tends to diminish manufacturers' hopes to produce a single atmosphere which will be universal in application. May I repeat that these problems are chemical and, as a result, the chemical reactions must be considered individually.

In the field, this is scarcely ever done although laboratory research has furnished much valuable information along these lines. The papers issued by Battelle Memorial Institute, which have appeared in "Metals and Alloys" and "Metal Progress," serve as an invaluable source of information on the effect of individual constituents and the chemistry of the behavior of the various metal products.

The practical workers are not so sure. A well-known steel manufacturer who makes steels for almost every purpose has attempted to set up the approximate best gas atmosphere for various steels. Although such information is only a guide, and custom-tailoring is still the rule, you would throw your hands up in horror when I tell you that he makes no attempt to remove carbon dioxide. On the other hand most laboratory results work out about as follows: Hardening high carbon steels cannot be done satisfactorily in the presence of any carbon dioxide —Gonser of Battelle Memorial Institute says less than two-tenths of a per cent because of the danger of decarburizing the steel.

CO_2 Extraction Favored

Best practice would be to remove carbon dioxide, but it may be possible to prepare an atmosphere sufficiently low in carbon dioxide content to make it suitable for hardening without extraction of carbon dioxide. Some practical steel workers heat their steels for hardening in an atmosphere that is definitely oxidizing, feeling that the easy removal of oxide scale is a most valuable factor. The tendency of reducing type atmosphere is to produce a scale which will cling to the steel. This may be responsible for non-uniform hardening. It has been particularly noted in cases where steels are oil-quenched, which does not act harshly enough to spall off the scale.

I do not feel that I should limit my statements to heat treating only because I want to emphasize the idea of promoting gas as a chemical rather than a heating agent.

I have checked with Detroit, Cleveland, and Chicago for recommendations for the best atmospheres, and I am sorry to inform you that "There ain't no sich animal." Up to the present time, best results are still obtained by trial and error procedures for each specific case. Sometimes the results of such trial and error methods are completely baffling to the gas company who, pledged to secrecy by one customer, finds another making an identical product with a different atmosphere whose composition is also to be kept a dark secret. I give up at present!

May I close by referring back to the liberty I have taken with the topic which has been assigned to me. The gas industry so often complains that there is no glamor in the gas business. Here is a modern miracle, and we have not said enough about it nor done enough about it. Just consider the wonder of converting a steel bit from a useless soft thing to a bright hard tool through the magic breath of gas.

Where once all that our customers knew about gas was that it smelled and that it burned, now we must tell them gas is also a chemical at their service. Our slogan was "When It Is Done with Heat, You Can Do It Better with Gas." Now it needs a supplement—WHEN YOU WANT A BETTER PRODUCT, GAS, THE CHEMICAL, IS READY TO DO THE TRICK.

Industrial Gas

THE Massachusetts Development and Industrial Commission, State House, Boston, Massachusetts, in its newspaper advertisement calls attention to the fact that gas for industrial purposes is available everywhere in Massachusetts "at rates which permit its widespread use for profitable production."

Water Heating . . . *How to Build Gas Load Through Tested Selling Steps*

By B. A. SEIPLE

Vice-President, Jersey Central Power & Light Co., Asbury Park, N. J.

WHILE hot water is as old as Methuselah, we must today concern ourselves with the present means of obtaining it. Its use is established; its necessity known. The question is for us to tell our customer the story of automatic gas water heating—how hot, how constant and how economical it is.

Let us then consider the very first step in selling automatic gas water heater service. With the turn of a *hot* water faucet, our customers should not receive hot water of temperatures somewhat in excess of room temperature, nor on the other hand should they receive steam or water approximating 212 degrees. That hot water faucet should deliver at all times 140 degree water.

"The Tap Test"

Therefore, our first problem in selling this service by gas is to create dissatisfaction through showing the consuming public the inadequacy of their present method. There are undoubtedly many ways of creating this dissatisfaction, but on our property we have adopted what we choose to call "The Tap Test," which is nothing more or less than visual proof to our prospective customers that while they are obtaining some measure of hot water from their present method, it is definitely inadequate and unsatisfactory. Having created this dissatisfaction with their present method, our next problem is that of convincing our prospective customer that automatic gas water heating service is the cheapest possible way that they can obtain the hot water service they *now* want.

Varying rates have, in the past, created exaggerated ideas of the cost of gas automatic hot water service in the minds of our customers. We must overcome this "cost complex" if we are to sell in the proportion that the character of our service warrants. There are many approaches to the customer to prove this low cost. Some companies have used the rental purchase plan, others a nickel down and a nickel a day plan. In our particular case, we have adopted a 60-day trial plan.

A little later I will give you some figures in connection with our results from using this plan. However, I should like first of all to tell you our reasoning behind the trial plan. Contrary to general belief, we know that the trial plan, *properly supervised and executed,* is insurance against reverts and not conducive to them. To our mind, the trial plan closes the door to all future arguments.

Trial Installations

We follow a policy of carefully investigating and credit checking all trial installations, then wait the full period of the trial before attempting to close the sale. In this way, the customer has a full opportunity to acquaint himself with the service and at the same time receive a bill for one *full month* of service.

After the period of trial is passed and they have accepted the heater for purchase on our regular terms, we know that the only occasion for a revert from *that* customer occurs if they move away or otherwise are unable to meet their obligations, but certainly not because of dissatisfaction with either the cost of the service or with the service itself. Our point number two, then, in selling, is economy of operation, as proved by a 60-day trial plan.

The third point of selling, which is probably universally used by most companies, is a form of "using your user." There are many applications of this sales point. We have elected to call our user plan an "Ask Your Neighbor Plan," on the basis that one customer's word of approval is worth volumes said by our salesmen or our advertising.

This "Ask Your Neighbor Plan" accomplishes a two-fold purpose. Aside from having customers express to prospects their complete satisfaction with gas automatic water heating service, it is apparent that in order to obtain these words of approval the salesman must necessarily follow up his sales, and in that way develop the customer-user contacts which are so desirable today. Certainly a salesman representing a gas company is very much more welcome in a user home after he has given them follow-up service than he would be were he to ignore the customer after the sale has been made, and his opportunities for additional business are enhanced through these "Ask Your Neighbor" calls.

Many companies have followed the user plan. One of the most recent surveys was conducted by the Brooklyn Borough Gas Company, where they analyzed 281 inquiries, asking consumers to rate their automatic gas water heating. The cumulative ratings came out as follows:

1st—Always hot water, no matter when you turn on the faucet
2nd—The modern gas water heater requires absolutely no labor
3rd—No fire tending
4th—Gas heated water is always clean, never rusty
5th—Moderate cost

Other services were listed, following in lesser degree.

Other companies have utilized this testimonial of users in various ways, but, without exception, all agree that the best sales agency for hot water by gas is a satisfied user who is enthusiastic about the comforts and conven-

Presented before Commercial Section, A. G. A. Convention, New York, N. Y., Oct. 9-12, 1939.

ience as well as the economy of gas automatic water heating service.

Some months ago I had the opportunity to talk on this subject before the New York-New Jersey Regional Gas Sales Conference, at which time I traced our water heating sales policies for the past ten years, pointing out that the business of selling gas automatic water heaters has been to us, as undoubtedly it has to many of you, a problem of fitting our selling appeal to conditions as they exist or have existed from time to time.

I should like to review with you the results from 1936 on, when we inaugurated our first trial campaign, and give you the results from that year to date, in the belief that they will in some measure back up the reasoning which we have used in arriving at our sales plan of today.

Program Boosts Sales

In 1936 we adopted a 30-day trial plan and in that year installed 672 automatic gas water heaters. Of these, eighteen were reverted or taken out for all causes.

Following our experience in 1936, we found from some field surveys that by increasing our trial period to 60 days we could expand our potential market. We did so and in the year of 1937 sold and installed 798 automatic water heaters and reverted only twenty-seven for all causes.

In 1938 we extended our sales plan to take in the Tap Test, which I explained before, and continued the 60-day trial plan. During that year, we sold and installed 1086 heaters, with a revert record of twenty-five heaters returned for all causes.

We have adopted the same plan for our activity this year and in the first nine months have sold and installed 864 automatic heaters and our reverts for that same period have totaled thirty-six for all causes.

Without some brief knowledge of our property, it would be very hard to determine whether these figures constitute a satisfactory selling job. I think it might be well to point out to you that we have a gas territory serving a small portion of the State of New Jersey with a very fluctuating meterage that ranges from slightly over 36,000 meters in January to over 59,000 in August.

This meterage is spread over 104 individual communities and is served from fourteen district offices. We have a sales force of twelve salesmen, who spend all of their time on the sale of gas-burning domestic appliances, and by reason of the nature of some of our smaller districts, we have in addition two part-time men who are combination fitters, meter readers and salesmen in two of these smaller districts. We have one supervisor, who devotes his entire time to the promotion of gas automatic water heaters.

I feel that it is important to bring out at this time the value of employee cooperation in the development of this gas automatic hot water service. We have consistently talked to our people to the point where there are more than 50 per cent of our gas employees who use gas automatic hot water service. This can be interpreted in terms of real help when you consider that 475 of the 1086 heaters sold in 1938 resulted from employee tips. When, and only when, your employees become sold will they go out and unhesitatingly recommend hot water heating by gas to their friends and neighbors.

Thus far I have dwelt entirely on the selling angle of gas hot water service. However, we inaugurated about a month ago a survey, which, when completed, will give us tangible evidence of the load building and revenue possibilities of gas automatic water heaters. To say that the gas automatic water heating business is a desirable business for the gas company is one thing, but to know tangibly what it means in cubic feet of gas and in dollars of income is another. To satisfy this desire for definite knowledge, this survey, which to date covers only 460 customers, brings to light some interesting and conclusive data.

This survey, as prepared, took the actual consumption and revenue for one year prior to the time the customer purchased the automatic water heater

(Continued on page 450)

B. A. Seiple, in a vivid demonstration at the A. G. A. Convention, explains the Tap Test used to convince prospects that they need automatic gas water heating for proper results. In this case the water is too hot and steam emerges from the spigot.

It's Showmanship . . . . . That Counts

What are county fairs made of?
Cows and sows and fun for low brows . . . .
That's what such fairs are made of!

By DEKE HOULGATE

THIS jingle might have been faintly descriptive of county fairs in general some years ago, but the Los Angeles County Fair recently concluded at Pomona, California, proved they can also be a world's fair in miniature —at least in so far as offering opportunities to opportunist exhibitors such as the Southern California and Southern Counties gas companies.

Not only did these utilities, through efforts of their Natural Gas Bureau, headed by F. H. Holden, establish one of the most attractive exhibits at Pomona, but they also mixed just the right ingredients in their display to draw and hold unusually large numbers of the strolling crowds.

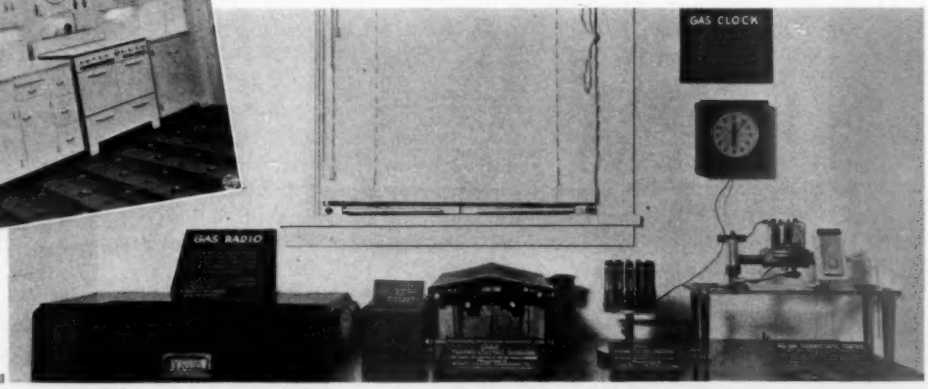
Undoubtedly the focal point of interest in the exhibit was where a gas radio and a gas clock were on public display for the first time in the West.

While a beautiful working kitchen and section devoted to latest models of gas appliances drew adequate attention, the novelty of radio and clock operated by gas was a constant magnet.

For most, seeing was believing, but others of the curious kept attendants busy with "whys" and "hows."

The gas exhibit at the Los Angeles County Fair sponsored by the Southern California and Southern Counties gas companies was an attention-compelling display that glistened with modern gas appliances. At the end of the gas exhibit was the modern kitchen shown in the small picture above. It was complete with a novel dishwasher which operated on water pressure alone

Without possible contradiction, this year's county fair proved the most gratifying to the gas utilities from the standpoint of interest and results of any in recent years. It's showmanship that counts!



Time and radio were gasified at the County Fair. This feature of the elaborate exhibit attracted over twice as many Fair goers as paused to inspect near-by displays. Inset is a section of the kitchen displayed at the Fair

Additions to the Family

THE American Gas Association welcomes the following new members to its ranks and urges them to make full use of their membership in the gas industry's national organization. These members joined the Association between October 1 and November 20, 1939.

MANUFACTURER COMPANIES

Arline Stove Corporation, Isaac Kane, President, Brooklyn, N. Y.

Dortsch Stove Works, G. O. Stanley, Vice-Pres., Franklin, Tenn.

Fox Control & Mfg. Co., Otto Fox, Manager, Cleveland, Ohio.

The Heil Company, H. C. Frentzel, Chief Engr., Milwaukee, Wis.

H. E. Mills Company, H. E. Mills, Owner, Muskegon, Mich.

Palmer Mfg. Co., Oscar Palmer, Pres., Phoenix, Ariz.

Rybolt Heater Company, A. L. Rybolt, Gen. Mgr., Ashland, Ohio.

Ser-Vrite Mfg. Co., M. V. Stephenson, Gen. Mgr., Bloomington, Ill.

INDIVIDUAL MEMBERS

Bauer, W. T., Petroleum Advisers, Inc., New York, N. Y.

Bergh, R. T., District Manager, Geo. D. Roper Corporation, Kansas City, Mo.

Biot, Arthur W., Supervisor, Work Order Bureau, Queens Borough Gas & Electric Co., Far Rockaway, N. Y.

Brackett, Jos. N., District Manager, Roberts & Mander Stove Co., Boston, Mass.

Brown, A. M., Research Director, The Patrol Valve Co., Cleveland, Ohio.

Bruning, A. H., Commercial Manager, Florida Public Service Co., Orlando, Fla.

Cadwallader, W. S., District Manager, Geo. D. Roper Corporation, Chicago, Ill.

Clarkson, Fred, Treasurer, Roanoke Gas Company, Roanoke, Va.

Clement, Jr., W. S., Vice-President, Clement "Coverall" Company, Camden, N. J.

Colley, Josiah V., Treasurer, Binghamton Gas Works, Binghamton, N. Y.

Corner, E. R., Rate Engineer, Columbia Engineering Corp., Columbus, Ohio.

Deitzler, C. D., Assistant Commercial Manager, Public Service Electric & Gas Co., Princeton, N. J.

Dixon, Edgar H., Secretary-Treasurer, United Gas Corporation, New York, N. Y.

Fisher, Capt. J. M., Regional Manager, Bryant Heater Company, Cleveland, Ohio.

Fishwick, E. T., Vice-President, Worthington Pump & Machinery Corp., New York, N. Y.

Flanagan, Henry R., Assistant to Manager—Customer Service Department, Philadelphia Electric Co., Philadelphia, Pa.

Fogg, Walter, Assistant Commercial Manager, Public Service Electric & Gas Co., Trenton, N. J.

Fox, James A., Foley & Fox, Washington, D. C.

Fraser, W. R., Engineer, Michigan Consolidated Gas Co., Detroit, Mich.

Gates, C. A., Manager Customer Service Department, The Danbury & Bethel Gas & Electric Light Co., Danbury, Conn.

Gerhard, D. H., Division Manager, Consumers Power Company, Alma, Mich.

Good, Allan J., Assistant Statistician, The Peoples Gas Light & Coke Co., Chicago, Ill.

Grimes, L. E., Superintendent, Main & Service Department, Consolidated Gas Elec. Light & Power Co., Baltimore, Md.

Guildford, Wallace C., Vice-President, Roberts & Mander Stove Co., Hatboro, Pa.

Hanlan, James P., Sales Manager, Public Service Electric & Gas Co., Newark, N. J.

Hanmer, E. B., Manager, Central Sales Division, American Stove Company, Cleveland, Ohio.

Harper, M. J., District Manager, Pittsburgh Equitable Meter Co., New York, N. Y.

Hegarty, Dan A., Assistant General Manager, Minneapolis Gas Light Co., Minneapolis, Minn.

Hendrix, F. L., City Manager, City of Clearwater Gas Dept., Clearwater, Fla.

Hilty, John, District Manager, The Peoples Natural Gas Co., Altoona, Pa.

Hirschfield, Norman, Vice-President, Consolidated Gas Utilities Corp., Oklahoma City, Okla.

Hobbs, H. G., President and General Manager, Ontario Shore Gas Company, Oshawa, Ont., Canada.

Holmes, Leonard M., Commercial Manager, Dayton Power & Light Co., Dayton, Ohio.

Howe, Mrs. Bertha P., Home Economics Division, Luzerne County Gas & Elec. Co., Kingston, Pa.

Jaggard, Henry B., Assistant Commercial Manager, Public Service Electric & Gas Co., Montclair, N. J.

Jones, Albert E., New Business Manager, Tide Water Power Co., Wilmington, N. C.

Jones, W. H., Division Superintendent, Philadelphia Electric Co., Ardmore, Pa.

Keenan, Dan S., President, Carnegie Natural Gas Co., Pittsburgh, Pa.

Kirkpatrick, F. J., Assistant Manager, City of Holyoke Gas & Elec. Dept., Holyoke, Mass.

Klunk, J. L., Manager, Conewago Gas Co., Hanover, Pa.

Lacey, W. Randolph, Merchandising Manager, The Bryant Heater Company, Cleveland, Ohio.

Leusch, Peter F., Secretary-Treasurer, The East Ohio Gas Co., Cleveland, Ohio.

MacArthur, Hugh, Vice-President, Connecticut Coke Co., New Haven, Conn.
Conn.

Lawson, Floyd K., Sales Manager, Geo. D. Roper Corporation, Rockford, Ill.

Lees, George A., Office Manager, New Haven Gas Light Co., New Haven, Conn.

Lesley, F. W., Treasurer, Pennsylvania Gas & Elec. Co., York, Pa.

Lindeman, H. V., Commercial Gas Sales Engineer, Metropolitan Edison Co., Easton, Pa.

Little, W. M., General Superintendent, Distribution, Arkansas Louisiana Gas Co., Shreveport, La.

Lucas, Kenneth B., Manager Suburban Division, Minneapolis Gas Light Co., Minneapolis, Minn.

Ludlow, K. V., The Cleveland Heater Co., Cleveland, Ohio.

Luty, Donald J., Assistant General Manager, Air Conditioning Div., Gar Wood Industries, Inc., Detroit, Mich.

MacArthur, Hugh, Vice-President, Connecticut Coke Co., New Haven, Conn.

McCorkindale, Malcolm F., Manager, Watertown Gas Co., Watertown, S. D.

McGinty, A. J., Servel, Inc., New York, N. Y.

McNamara, C. J., President, Pittsburgh Water Heater Co., Pittsburgh, Pa.

Metters, K. F. B., 94 Elizabeth St., Melbourne, Australia.

Moke, Edwin C., Assistant Superintendent Distribution, Public Service Electric & Gas Co., New Brunswick, N. J.

Mumma, Peter S., Sales Manager, West Ohio Gas Company, Lima, Ohio.

Neel, William T., Superintendent Statistical Division, Philadelphia Electric Company, Philadelphia, Pa.

Oberndorfer, Abbott, Systems Auditor, Electric Advisers, Inc., New York, N. Y.

O'Hagan, James E., Manager Central Division, Robertshaw Thermostat Co., Chicago, Ill.

Partlow, Howard W., President, The Partlow Corporation, West Hartford, N. Y.

Post, Frank H., Manager, Eastern Division, Robertshaw Thermostat Co., Philadelphia, Pa.

Reeser, Warren M., District Manager, Amere Gas Utilities, Beckley, W. Va.

Roberts, Earl V., Manager Appliance Lighter Division, The Bryant Heater Company, Cleveland, Ohio.

Roesle, L. L., Manager, The Gas Service Company, St. Joseph, Mo.

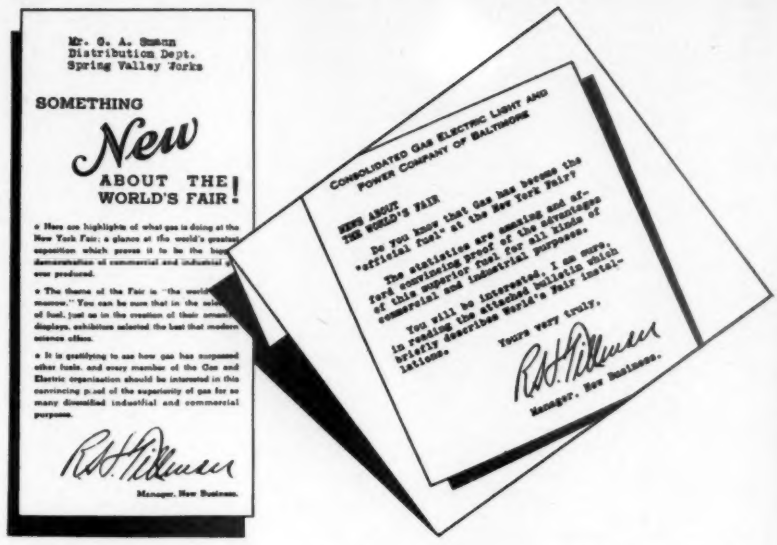
Rorison, Wm. A., Editor, Servel Utility News, Servel, Inc., Evansville, Ind.

Ruthenburg, Louis, President, Servel, Inc., Evansville, Ind.

Ryan, W. T., Division Manager, Philadelphia Electric Co., Ardmore, Pa.

Saas, George A., Advertising Manager,

Citizens Gas & Coke Utility, Indianapolis, Ind.
Schell, H. W., Stone & Webster Service Corp., New York, N. Y.
Shermire, E. J., Sales Manager, Detroit Michigan Stove Co., Detroit, Mich.
Shields, J. O., Asst. Treasurer, Colorado Interstate Gas Co., Colorado Springs, Colo.
Schuldt, John F., Engineer, The Peoples Gas Light & Coke Co., Chicago, Ill.
Schwyn, Carl H., President, Consumers Natural Gas Co., Cygnet, Ohio.
Scudder, J. M., Accountant, Queens Borough Gas & Electric Co., Far Rockaway, N. Y.
Smith, E. M., Chief Dispatcher, United Gas Pipe Line Co., Houston, Texas.
Sorby, E. C., Sales Production Manager, Geo. D. Roper Corp., Rockford, Ill.
Sperry, L. F., Treasurer, Panhandle Eastern Pipe Line Co., New York, N. Y.
Spinnehoern, A. E., Auditing Asst., Public Service Electric & Gas Co., Newark, N. J.
Staubach, Wm. T., District Office Manager, Consolidated Edison Co. of N. Y., Inc., New York, N. Y.
Steele, Ralph, Sales Manager, Virginia Gas Distribution Corp., Staunton, Va.
Stephenson, Mrs. Eliza M., Home Service Director, Jersey Central Power & Light Co., Asbury Park, N. J.
Sticelber, Paul K., Division Mgr., Central State Power & Light Corp., Tulsa, Okla.
Taylor, Paul R., Vice-President, Consolidated Electric & Gas Co., New York, N. Y.
Tiddy, William, Director of Research, Semet Solvay Company, New York, N. Y.
Tooker, Jesse G., New Business Manager, The Gas Service Co., Wichita, Kansas.
Thurston, Allen M., Supervisor, Industrial Gas Sales, The East Ohio Gas Co., Cleveland, Ohio.
Tuttle, Henry, First Assistant Treasurer, Michigan Consolidated Gas Co., Detroit, Mich.
Wagner, Edwin, Secretary, Electric Advisers, Inc., New York, N. Y.
Wagner, Jane Tiffany, Home Service Director, Servel, Inc., New York, N. Y.
Walker, Carl F., Engineer Property Records, The East Ohio Gas Company, Cleveland, Ohio.
Ward, A. E., Manager Gas Sales, Utility Management Corp., New York, N. Y.
Wardner, Walter C., Superintendent, Connecticut Coke Co., New Haven, Conn.
Weigele, Theodore W., Engineer's Staff Assistant, Michigan Consolidated Gas Co., Detroit, Mich.
Weisert, W. N., Assistant Commercial Manager, Public Service Electric & Gas Co., South Amboy, N. J.
Welker, L. E., Manager Gas Appraisal Department, Columbia Engineering Corp., Columbus, Ohio.
Whitworth, John B., President, Citizens Gas Company, Salisbury, Md.
Workman, Dean M., Gas Engineer, Ebasco Services Incorporated, New York, N. Y.



Miniature letters which explained why the A. G. A. World's Fair mailing piece deserved the attention of Baltimore's customers and employees

"Tom Thumb" Letters Introduce Data on World's Fair Gas Usage

SINCE its first announcement in August, over 93,000 copies of the Industrial Gas Section's orange-and-black statistical study of gas *at work* for N. Y. World's Fair exhibitors have been purchased by 76 different gas companies and manufacturers from Maine to Florida and from Long Island to Oregon. That's quite a record for a single piece of non-residential gas literature—and we're proud of it.

However, the real, positive, stimulative effect created by this publicity folder resulted, not so much from the volume in which it was distributed, as from the manner in which those who purchased it *put it to work* in their own localities. Some of the methods used were most ingenious—one having been reported last month in these columns—and are well worth consideration by others using national material in local direct-by-mail promotion.

Baltimore Uses Letterettes

Above are reproduced the memoranda which were attached to the A. G. A. publication, "Tomorrow's Industrial and Commercial Fuel—GAS—*At Work* In the 'World of Tomorrow,'" by Consolidated Gas Electric Light and Power Company of Baltimore, who used 7,500 copies to send to industrial and commercial customers and to put in the hands of each gas, electric and steam employee of the company. The strip on the left accompanied those copies of the folder brought to employees' attention and carried the recipient's name and address as run off from addressograph plates. The bolder tab to the right (in color) was clipped to each copy mailed to a customer or prospect. No one who received the publication failed to understand "Who sent this to me and why?"—a mighty important point in making any national direct-mail-piece "sell."

Thank you, Mr. Tillman, for making our efforts more effective in Baltimore. Among the scores of ways 76 different companies used our publication, we think your method rates high.

Natural Gas Service Extended in West

THOUSANDS of cubic feet of natural gas went whirling through 12 miles of brand new pipe recently when T. C. Hopkins, president of the Morro Bay Chamber of Commerce in California, opened a valve which started this service.

Costing more than $50,000, the new pipe line becomes part of a 12,000 mile network of natural gas pipe lines of the Pacific Lighting Corporation system, which taps every important oil and gas field in California and supplies the major population centers of the State. The pipe line required approximately 60,000 feet of four-inch pipe.

R. E. Easton is president of the Santa Maria Gas Company, through whose facilities the natural gas is served to Morro Bay. The new service supersedes the distribution of propane which was started in 1930.

Facts on the Fair . . . *A Review of the Gas Industry's Participation*

Hugh H. Cuthrell

By HUGH H. CUTHRELL
President, Gas Exhibits, Inc.

NOW that the World's Fair is winterizing it is appropriate to review the results of our industry's participation. On the whole these results are satisfactory. We had a large number of our customers visit our exhibit and learn something about gas and its uses. We had a larger number realize, through force of publicity, that the gas industry will be a vital factor in America's World of Tomorrow.

3 Million See Gas Exhibit

Figures can be variously interpreted. Yet let us consider the figures of visitors to our exhibit and its part. A total of approximately 3,000,000 persons visited our building and were thus able to get some impression of our industry. These people are our customers who should know of the benefits which gas fuel in its various applications bring to the home, the commercial establishment and the industrial plant.

There were 1,000,000 persons recorded entering the Servel exhibit to inspect this really outstanding demonstration of gas refrigeration. Approximately 500,000 persons passed through Homewood, the all-gas house which was jointly sponsored with *Good Housekeeping* Magazine. These visitors got an idea, from inspecting this typical American home, of what a house can be when gas is the fuel for house heating, water heating, air conditioning, cooking and laundering.

Over and above the effect created by our exhibit on these visitors has been the definite impression made upon the American public at large by the publicity resulting from our industry's participation. This publicity and its results very probably have been heard or read by you. Yet consider them as I review this activity.

The gas industry has received nationwide publicity from its participation in the World's Fair. This publicity began in earnest—even though we had received some previously—with the breaking of ground for our building. Gas Exhibits was the first private building to be started at the World's Fair, and considerable publicity in various media resulted. This publicity continued to be obtained through the days prior to the opening of the Fair and through the six months of the exposition.

Fair Publicity

Newspapers in every state of the Union and those of foreign countries, leading class magazines, business and technical journals, gas and allied trade publications, the radio, newsreels, travel booklets, steamships, bus and railroad guides and other media have carried words and pictures calling attention to our industry's World's Fair prominence. In fact favorable publicity for the gas industry as a result of World's Fair participation has penetrated every section of the nation and has reached every category of human life.

Of course you've heard that or read about it before. So what? Just consider that we would not have obtained this favorable publicity had our industry failed to participate. We would not have made any impression upon the 3,000,000 persons who witnessed our exhibit. We would, indeed, have been a dead industry as far as the World's Fair was concerned.

Instead we're known—and known as an industry that has something that meets America's wants today and tomorrow. It is up to us to take advantage of that favorable situation. By no means should we rest contented. We have taken a real forward step. From it we have obtained benefits. We should make certain that we retain these benefits—and add to them. The way we can accomplish this is to plan for future enterprising promotion, put across our plans and thus take advantage of them.

1940 Fair To Repeat "City of Light"

CONSOLIDATED Edison Company of New York, Inc., will participate in the New York World's Fair in 1940, again presenting the huge "City of Light" diorama which has drawn more than 7,500,000 visitors, Oscar H. Fogg, vice-chairman of the board, has announced. Attendance at the "City of Light" exhibit has been more than three and one-half times as great as was anticipated when his companies signed their first contract with the Fair, Mr. Fogg said.

"Unquestionably the Fair has brought about a better understanding between the Consolidated Edison System companies and the seven million people they serve in New York City and Westchester County," Mr. Fogg said. "Many thousands of customer contacts have improved our relationship with the public. Our diorama has made crystal clear the responsibilities of utility operation in the Metropolitan area while supplementary displays in the building have gone into the matter of revenues, taxes, investments, purchases and employee working conditions."

Puppet Opera in New York

ERNEST WOLFF'S Victor Puppet Opera Troupe, which proved so popular at the Gas Industries Building during the New York World's Fair is presenting a series of performances at the Midtown Music Hall, New York City. During the course of the season that will extend through December 13, the puppet opera productions will be "Aida," "Traviata," "Carmen," "Cavalleria Rusticana," and "Pagliacci," "Faust" and "Rigoletto."

Colorful and interesting gas display at the Pacific International Livestock Exposition

Livestock Show Spotlights Gas

PORTLAND Gas & Coke Company recently held the spotlight at the Pacific International Livestock Exposition, the West's greatest livestock show, held in Portland, Oregon, October 7 to 14, with a highly illuminated booth displaying modern gas appliances for the "four big jobs."

Attendance at the show was 118,187, according to exposition officials. Portland Gas & Coke Company was one of the largest, most colorful and interesting of the 92 industrial exhibits.

Arranged by Robert B. Elliott, sales promotion manager, Kenneth G. Martin, plumber-dealer coordinator, and Ralph H. Jaenicke, display manager, the background of the booth was composed of five panels, each picturing the blue flame and lettering, set off by indirect lighting. Above the panels was lettering the full width of the booth, "Portland Gas & Coke Co.," and under this, "Use Gas for the 4 Big Jobs."

The new CP ranges displayed brought forth favorable comment from visitors. Water heaters were also displayed, together with a 6-ft. gas refrigerator and Portland Gas & Coke Company's valuable by-product, Gasco briquets.

Four appliances were shown in the heating display: a winter air conditioning furnace, two circulating heaters and a radiantfire. An endorsement by Burt Smith, prominent Portland builder and $500 prize winner in the A. G. A. national contest for builders of all-gas homes, attracted much attention. It read:

"I have constructed fifteen houses in and about Portland within the past two years. The construction costs of these homes cover a price range from $3,800 to $80,000. Without exception, each home is equipped with a gas-designed furnace, which I have found to be most satisfactory in regard to comforts obtained, installation cost and yearly operating cost."

Gas company salesmen and home economists, Barbara Johnson, Mary L. Walsh and Marian Dunne, were on duty throughout the eight-day show.

Gas Appliance Sales Up for Nine Months

AN increase of 42.0 per cent was registered in the sales of gas house heating equipment during the first nine months of this year has been reported by the Association of Gas Appliance and Equipment Manufacturers as compared to last year's figures.

Gas ranges increased their sales volume 32.4 per cent during the period while gas water heaters rose 27.3 per cent.

"West's Gas" Suspends Publication

WEST'S Gas Improvement Company, of New York City, has announced that publication of "West's Gas," a monthly publication of the British parent company, has been suspended because of the war situation.

This monthly enjoyed a wide circulation in this country and Canada, its special summer numbers covering the industry's problems being in great demand. It had a recognized place on the engineer's bookshelves as works of reference and it is hoped that publication will be resumed at a later date.

Effect of War on the Gas Industry

BOMBS or no bombs, *The Gas Times* of London intends to continue to boost gas in England to the best of its ability. Such is the gist of a letter from the editors to the A. G. A. MONTHLY commenting on an article in the October issue entitled "War-Time Emergency Affects British Gas Industry," which referred to the brevity and content of the September 9 issue of the English publication.

The letter points out that while the war was directly responsible for the abbreviated issue, it was not representative of the effects of war upon gas journalism. The fact that *The Gas Times* swung back to normal size immediately after this issue bears out this contention.

The following informative paragraph from the letter throws light on some of the war-time restrictions:

"What are known as black-out regulations—that is suppression of all public lighting and a reduction of private lighting—affects our gas industry considerably, for we still hold the major portion of the lighting business in this country. And the fuel rationing scheme which, broadly speaking, limits gas consumption to 75 per cent of the consumption in the last pre-war year, may not be without effect, though there is every hope that this restriction may be lifted before long, as the government needs benzole and toluole—and that's where gas comes in."

Other interesting information is supplied by Robert Williamson, a member of the British gas industry. According to Mr. Williamson, gas companies in all parts of England are better equipped than ever before to meet the demands now made upon them.

He points out that "because of its extreme flexibility—4,000 different trades use it for an average of seven processes apiece—gas is increasingly the fuel used in the production of armaments where accurate temperature control is essential.

"Equally important is the fact that in the carbonization of coal to make gas, chemists get as by-products many essential 'sinews of war.' Among these are TNT, lyddite and other high explosives; benzole motor fuel; sulphate of ammonia, a powerful fertilizer; and many drugs and antiseptics."

Mr. Williamson states that the capacity of the industry is indicated "by the fact that during the last war one gas company alone supplied TNT and other explosives to fill 160,000,000 shells, 70,000,000 gallons of oil, 13,000 tons of disinfectants, and enough tar to treat all the military roads on the Western Front."

Engineering Executive Dies

F. G. Curfman

FLOYD G. CURFMAN, vice-president of the Improved Equipment-Russell Engineering Corporation, a division of Combustion Utilities Corporation, of 60 Wall Street, New York, died November 5, after a long illness. He was fifty-nine years old.

Mr. Curfman, a native of Malvern, Iowa, was associated with the Henry L. Doherty interests for more than twenty-five years. He was graduated from the University of Colorado in 1904, after having attended Denver University.

Mr. Curfman was associated with numerous gas engineering companies, including the Denver Engineering Company, George Leyner's Engineering Works, the Improved Equipment Company, Laclede Christy Company and D. R. Russell Engineering Company. He was also in business for himself for a number of years.

A member of the American Gas Association, Mr. Curfman was also a member of Mountain Lodge of Masons, of Montclair; the Doherty Men's Fraternity and the Guild of Ancient Supplers of Gas Appliances, Skills, Gins, Accessories and Substances.

Former Laclede Head Is Dead

EDWARD P. GOSLING, president of The Laclede Gas Light Co., St. Louis, Mo., from 1932 to 1936, died of heart disease Oct. 27. He had been an invalid since July, 1938, when he suffered an attack of coronary thrombosis. He was 64 years old.

A native of Worcester, Mass., he had been in the public utility business for 45 years. At one time he was general manager and vice-president of the Newport, R. I., Electric Corp.

New Explosives from Gas and Oil

THE United States is better able to produce explosives than any other nation, according to Professor Ernst Berl, formerly head of the Austro-Hungarian munitions industry during the World War and now research professor at the Carnegie Institute of Technology, Pittsburgh. Writing in *Chemical and Metallurgical Engineering*, Prof. Berl pointed out that chemical advances make it possible to produce military explosives from raw materials not used for explosives manufacture in the last war.

Devastating explosives can be made from natural gas, from crude oil, by fermentation of carbohydrates, from sugars, and from bituminous coals. Methane in natural gas can be converted into acetylene and into methanol (wood alcohol); formaldehyde can be made direct from methane or from methanol; acetaldehyde can be obtained from acetylene; and one of the newer explosives, pentaerythritetetranitrate, can be produced by combining acetaldehyde and formaldehyde, and nitrating the product. TNT can be made from aromatics extracted from petroleum as well as from the coking of soft coal.

Brooklyn Employees Honored

MORE than 650 persons attended The Brooklyn Union Gas Company's Service Emblem ceremonies on November 2. Upwards of 250 employees received recognition, either because of their unusually long years of service or because of outstanding accomplishment or contribution to the Company's welfare.

In expressing appreciation for the faithful service of veteran employees, President Clifford E. Paige called attention to the fact that a total of 857 employees have completed 25 or more years of service. Frank J. Averill is top man, having been connected with the company for 62 years. More than 41% of the total number of employees have been with the company 15 years or longer. It is an interesting fact that the average length of service of all the employees on the payroll is 13.5 years.

Trailer Runs Bus

To meet the gasoline shortage in wartime England, "producer gas vehicles" which manufacture gas from anthracite are now being attached to commercial transportation units as shown in the picture. According to reports, tests have proved that the new fuel is more economical than gasoline

Boast New Offices

WITH accent on modernity, the Union Gas System, Inc. at Independence, Kansas, opened new headquarters offices recently which aroused great local interest and accentuated the up-to-dateness of the latest gas equipment.

The new office, with complete air conditioning, houses 50 employees of the company and embodies many unique construction features such as glass block, aluminum venetian blinds, celotex wall paneling and other progressive items. The reception rooms as well as the lobby and sales room are models of beauty and efficiency and well merit the many congratulations extended to Paul R. Johnson, president of the company.

CONVENTION CALENDAR

1940

JANUARY

Jan. 12-13 **Louisiana Engineering Society**
St. Charles Hotel, New Orleans, La.

22-26 **International Heating & Ventilating Exposition**
Cleveland, Ohio.

FEBRUARY

Feb. 12-14 **Southern Gas Association—South Southwestern Regional Gas Sales Conference**
Hot Springs, Ark.

MARCH

Mar. 14-15 **New England Gas Association**
Hotel Statler, Boston, Mass.

APRIL

Apr. 15-17 **Mid-West Gas Association**
Lincoln, Nebraska

17-19 **Missouri Association of Public Utilities**, Annual Convention
Elms Hotel, Excelsior Springs, Mo.

22-23 **Florida-Southern Georgia Gas Meter Association**
Hollywood Hotel, Hollywood, Fla.

Apr. 29-May 2 **U. S. Chamber of Commerce**
Washington, D. C.

JULY

July 3-5 **Canadian Gas Association—Joint Meeting with Pacific Coast Gas Association**
Jasper Park Lodge, Alberta, Canada

OCTOBER

Wk. 7 **American Gas Association,** Annual Convention
Atlantic City, N. J.

Personal AND OTHERWISE

Two Students Win $50 A. G. A. Prizes for Mastering Gas Courses

TWO students of home study courses on the gas industry, Chester R. Mathes, of The Brooklyn Union Gas Company, Brooklyn, N. Y., and Marden E. Cobb, of the Republic Light Heat and Power Company, Inc., Buffalo, N. Y., were signally honored recently with the announcement that they had won $50 prizes for having attained the most comprehensive knowledge of the subject matter in their respective courses. Mr. Mathes won his award for his work on the course on American Gas Practice conducted by Columbia University while Mr. Cobb was recognized for his efforts in connection with the course on natural gas offered by the University of Kansas.

Both courses are sponsored by the American Gas Association and are supervised by advisory committees made up of eminent gas engineers appointed by the Association. The selection of the recipients was made by the educators conducting the courses, Professor Jerome J. Morgan of Columbia University and Professor C. M. Young of the University of Kansas.

Personnel Group Is Sponsor

The $50 prizes were offered by the Committee on Personnel Practices of the American Gas Association to students completing the home study courses during the year from September 1, 1938, to September 1, 1939. Funds for the prizes came from the Trustees Educational Fund which is administered by the committee. The prizes were offered in order to "stimulate the interest of the younger men in the gas industry to acquire more knowledge so that they may increase their value in their present position and be afforded greater opportunity for advancement in the future."

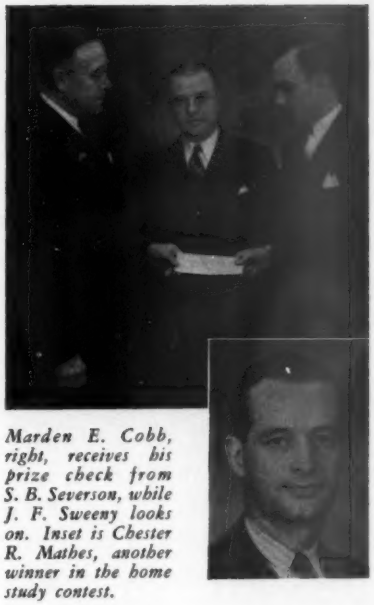
Clifford E. Paige, president of The Brooklyn Union Gas Company, presented the $50 check to Mr. Mathes at a special ceremony during the company's annual Service Emblem Dinner.

Mr. Mathes has been employed by The Brooklyn Union Gas Company at 176 Remsen Street for the past 16 years. He enrolled in the Columbia University Extension course in American Gas Practice in December 16, 1936 and completed the course on December 17, 1938. He had previously completed the course in gas manufacturing at the Brooklyn Polytechnic Institute in 1938.

Presentation of Mr. Cobb's award was made by S. B. Severson, vice-president of the Republic Light Heat and Power Co., Inc., at a testimonial dinner in Dunkirk, New York, on Thursday, November 16. The testimonial dinner was attended by all employees of the South Shore Division and J. F. Sweeny, local division superintendent, also presented Mr. Cobb with a souvenir booklet honoring the occasion and containing testimonial letters from H. D. Hancock, president of the Republic Company and Professor C. M. Young of the Department of Mining Engineering of the University of Kansas.

Mr. Cobb also received the third award in the prize essay contest sponsored by the Natural Gas Section of the American Gas Association last Spring. Americo Lucci, another employee of this district, received Honorable Mention in the same contest.

In making the presentation, Mr. Severson outlined the educational policy of the company sponsoring courses of study for interested employees at various institutions. He mentioned that the founder of the company, Henry L. Doherty, was a strong believer in all types of educational work for all employees and that recently the Henry L. Doherty Educational Foundation had been established to perpetuate these ideas.



Marden E. Cobb, right, receives his prize check from S. B. Severson, while J. F. Sweeny looks on. Inset is Chester R. Mathes, another winner in the home study contest.

Mr. Cobb is a graduate of Fredonia High School and the Buffalo Technical Institute. After his graduation he was employed by the local company in various capacities in meter and distribution work. He has recently been placed in charge of the Meter and Regulator Department of the South Shore Division of the company.

Announcement of the prize offers stimulated great interest among students of both courses.

Bertolette Honored

NORMAN B. BERTOLETTE, president and general manager of the Hartford (Conn.) Gas Company, was elected president of the Hartford Chamber of Commerce at its annual meeting on October 25.

Mr. Bertolette, who was advanced from the vice-presidency, has served as a director of the organization since 1937. While president of the Harrisburg (Pa.) Gas Company, Mr. Bertolette also served the Chamber of that city as its president.

Weaver on Bureau

C. I. WEAVER, president and general manager of the Ohio Fuel Gas Co., Columbus, Ohio, has been elected a trustee of the local Better Business Bureau for the coming year.

Wins McCarter Award for Second Time

RUDOLPH KASPER, an employee of the gas department of the South Carolina Power Co., Charleston, was signally honored recently for his resourcefulness and courage in saving a life by the Schafer prone pressure method of resuscitation. He received the McCarter medal and certificate for his outstanding performance.

This is the second time Mr. Kasper received this distinction. His first performance took place in 1928 when he saved the life of a Charleston woman.

The presentation was made at the annual supper of the gas department during which company officials highly commended Mr. Kasper for his meritorious service. He has been associated with the company for 16 years.

AFFILIATED ASSOCIATION *Activities*

Gas Men's Quiz Features New Jersey Gas Association Meetings

STUMPING the experts with questions like "How many seats are there in the gallery of a gas meter?" was the helpful, though hilarious, feature which made the five recent 1939 regional meetings of the New Jersey Gas Association bigger and better than ever. In total, over 2700 employees of ten New Jersey gas utility companies attended at least one of five annual New Jersey Gas Association get-togethers in Newark, Hackensack, Camden, Ocean City and Allenhurst, Oct. 24, Oct. 27, Nov. 1, Nov. 2, and Nov. 9, respectively.

At each location competitive teams were selected from the audience and embarrassed with "sticker" questions drawn from a hat loaded with the 200 best gas-industry-slanted questions submitted in a state-wide contest previously conducted by the Association. Prizes in hard cash repaid the contestants for their embarrassment.

Credit for the success of the quiz feature of the New Jersey regional meetings should go not only to the contestants and the at once instructive, amusing, and practical questions themselves, but to the Masters of Ceremonies, each a well-known gas industry leader in the areas served by the meeting. These men had the job of conducting the contest with speed and precision, and of snapping it up with spontaneous wit and roar-raising comment fitted to the unpredictable situations which result from putting an employee on the spot.

Preceding the questions-and-answers phase at each meeting was the formal business program, which in each case consisted of words of greeting from George B. Webber, director of educational work, Public Service Electric and Gas Company, and 1939 president of the New Jersey Gas Association, followed by introductions of the vice-president and secretary of the Association, and by the featured speaker, Harry W. Smith, Jr., director of industrial publicity, American Gas Association.

Mr. Smith's rapid-fire presentation covered "GAS—In the 'World of Tomorrow'" with a staccato of amazing statistics relative to the job being done by gas at the New York World's Fair. Emphasis was laid upon the points that: (1) The New York World's Fair is a real man-sized customer for gas, (2) The World's Fair represents a victory for gas over competitive energy sources, (3) The World's Fair is the biggest showroom for non-residential gas that the industry has ever had, and one worth taking advantage of, and (4) judging from the use of gas at the New York World's Fair, things look mighty rosy for bigger and better commercial gas business, as well as fatter domestic loads, in the "World of Tomorrow."

Through unavoidable circumstances, Mr. Smith was unable to attend either the Newark or Hackensack meetings, and, therefore, his paper was read for him by John Sverdlik, The Brooklyn Union Gas Company, regularly stationed at the New York World's Fair and personally familiar with the various applications covered in Mr. Smith's paper.

Nor were any of the meetings strictly business! Each local program committee had arranged some form of entertainment to consume half of the meeting time. In the various cities, this took the form of music, dancing, professional as well as within-the-company vaudeville talent, group singing, and door prize drawings. Refreshments closed the schedule in each instance.

Especial credit for a notable success in regional association functions is deserved by F. H. Darlington, superintendent of distribution, Peoples Gas Company, Glassboro, N. J., vice-chairman of the New Jersey Gas Association and chairman of the general Regional Meetings Committee. He and his cohorts staged an event well above par in its inspirational value to gas industry personnel.

Mid-West School Draws Record Attendance

HIGHLIGHTING production, distribution and utilization problems of the gas industry, the nineteenth annual Mid-West Gas School and Conference held at Iowa State College, Ames, Iowa, November 13-15, was one of the most successful ever held. Approximately 240 men attended, representing the largest group ever assembled for the meetings. The school is conducted by the Mid-West Gas Association and the Engineering Extension Service of Iowa State College.

It consisted of a general meeting followed by group meetings of the production, distribution, meter and utilization sections at which outstanding experts discussed specialized phases of the gas industry's problems. The featured speaker at the general meeting was Burt R. Bay, president of the Northern Natural Gas Co., Omaha, Nebraska, who described the development of natural gas in the mid-continent area.

One reason for the large attendance, according to C. B. Dushane, Jr., of the American Meter Co., Chicago, general chairman of the school, was the new type of program put on by the utilization section. This section held an actual school for utilization service men to familiarize them with the new control equipment used on CP gas ranges, gas refrigerators, water heaters and various types of heating appliances. This program was so well received that it will be repeated next year.

"Ed" LaVance, Jersey Central Power and Light Corp., kept the quiz contest at the Allenhurst meeting on the up-and-up and had a lot to do with the merriment following each team's answer to "sticker" industry questions

Utility Arithmetic and the Utility Accountant*

By F. L. Griffith

Vice-President, The Peoples Gas Light & Coke Company

F. L. Griffith

THE only relationship that I feel is particularly fundamental, as between utility outgo and income is that in an ultimate and final analysis, profit, or net income of any given enterprise can be positively and unequivocally demonstrated only when its aggregate revenues have exceeded, not only the aggregate amount of charges that may be made against revenue, but *all* expenditures theretofore made in the interests of the enterprise, and that, pending the winding up of the undertaking itself the accountant must use his arithmetic in such a way as to anticipate from date to date, so far as practical and common sense limits will permit, the state of affairs that will exist when the day of final accounting arrives.

One peculiarity of the arithmetic of every-day accounting work is that, in tremendously important aspects, the accountant must coordinate his arithmetical results with the tearing of sheets from the calendar. Thus a computation that will produce exactly correct results at *some* time does not necessarily produce accurate results *now*.

Time Factor

Probably no one here will question the statement that every dollar spent in the acquisition or construction of what used to be called "fixed assets" should *sometime* pass through the expense accounts in the form of provisions for depreciation thereof. Questions as to time and rate, in this connection, are themselves the very subject matter, however, for a vast amount of consideration under the caption—"Depreciation." Thus we must accept the fact that *time* is an essential factor in the use of accounting arithmetic, and hence that the latter must obviously be so used as to reflect the operations of a business or its status for a given date or period—not in disregard of past and future dates and periods—but in a sensible relationship to those other, and particularly future, dates and periods.

Another limitation upon the accountant's use of arithmetical processes may properly be mentioned here, I believe. His arithmetic must produce a result that demonstrates as great a degree of accuracy as possible regardless of the nature of any *testing process* that may be applied. The existence of interests in conflict in respect to every utility may easily, although perhaps indirectly, so affect the accountant's use of arithmetic as to cause inaccurate results.

Accuracy Essential

The accountant's arithmetic must be accurate and produce results understandable not only from the standpoint of management and labor, but also from those of the customer, regulating authority, the senior security holder and ultimately from that of the sometimes nearly forgotten man —the stockholder.

The accountant dare not be blind. He must do his "figure making" not solely with reference to the viewpoint, desires and predilections of the rate regulating commissions, which have recently constructed a new set of accounts to assist him in so doing, but also with deference to the not always identical point of view of the Securities and Exchange Commission, which champions principally the cause of the holder of senior securities, and further still, in such a way as to meet the practical needs of management and the stockholder.

It may be said that *nobody* can reach such an objective in his use of arithmetic. Perhaps so, but every accountant is required to *try*, and to approach it as nearly as human capabilities will permit in his particular circumstances. The current tendency on the part of governmental bodies, the public and the stockholders to place increased reliance upon the internal accountant is highlighting most clearly the responsibility he has, and has had, in this direction.

One instance out of the many in which the accountant must use his arithmetic with care and due regard for the calendar has to do with the capitalization of administrative and other overhead costs in connection with the construction or installation of items chargeable to plant accounts. It is to be presumed that this body is in accord with a statement of accounting principles developed during the current year by a committee representing both your industry and the gas utility business, and therefore that you find acceptable the following brief quotation therefrom:

"Depreciation Accounting" is a process for charging Utility Operating Income with the cost of depreciation (viz., the excess of cost over net salvage value, measured at the time property is retired from service), over the useful like of property as nearly as the latter may be estimated."

With that premise it follows that any sums capitalized as administrative or overhead cost in any given year will, in the application of the accountant's arithmetic, represent a component part of the provisions thereafter made for the depreciation of the plant items to which the overheads apply. Thus in capitalizing overheads we do not ultimately eliminate them from the expense accounts, but merely transfer them from a current accounting period forward to a subsequent period of accounting years. If we can for illustration assume that the overhead costs in a given case represent 10 per cent of the total book cost of the plant items involved, and that these plant units are utilized for a period of ten years, after which they are withdrawn from service, then 10 per cent of the depreciation provisions appropriately made in the 10 years will be required to provide for the write-off of the overheads capitalized as stated in the assumption.

Further, if we were to continue this illustration unchanged through a considerable period of years, capitalizing each year the same sums, we would quickly arrive at a year when the provision for depreciation applicable to the capitalized overheads will equal the overheads then to be capitalized. If one were to approach this matter of overhead capitalization, then, with the conscious intention of leaning unduly toward relief of one year's operating expense account, he must in the same breath recognize that he is casting an undue burden on the expense accounts of subsequent accounting periods.

I do not suggest that any one formula can be adopted for the determination of the amounts of overhead costs actually incurred. · On the contrary, no one for-

A full account of the organization meetings of the A. G. A. Accounting Section Committees will appear in the next issue of the MONTHLY.

* Abstract of an address before the Third National Accounting Conference, Edison Electric Institute, Chicago, Illinois, November 15, 1939.

mula will fit all circumstances. However, having in mind the accountant's ingrained abhorrence for the showing as net income of any dollar not earned, and accepting the fact that any amount of overhead capitalized this year means provision for depreciation thereof next year and for a good many years to follow, it would appear that the arithmetical computation of overheads to be capitalized will be done by such formulae as will limit to sensible proportions the amounts computed as representing overhead cost to be charged to plant accounts.

If the illustration is an adequate one it perhaps represents in effect merely a demonstration that "what goes up must come down," or in this case that whatever gets into the plant account in the way of cost must be amortized by way of depreciation or other comparable provisions. Otherwise stated, the arithmetic should take due cognizance of the inevitable habit of chickens coming home to roost.

Arithmetical Examples

Reverting to the foregoing illustration, but with a supposition this time that the accountant involved were not one of us, but one who would be willing to sharpen his pencil, scratch his head and dig up a way of calculating a greater amount, or percentage, of overheads to be capitalized—and any reasonably able accountant can do it—and supposing this greater amount to represent 15 per cent, instead of 10 per cent, of the total book cost, it is obvious that his arithmetic will now operate to reduce the apparent expenses of the current year by an additional 5 per cent of the book cost of the year's investments in fixed property. With sizeable property investment, this 5 per cent may mean a reasonably large number of dollars. But the reverse side of the picture is inescapable, in that the expenses of the years assumed to be the period in which the items of plant involved are used will in such case be burdened with depreciation charges just enough larger than in the first illustration to offset the added amount included in the first year's fixed capital cost.

Use of the term depreciation, in the sense of amortization of fixed property cost, in the illustration just used is perhaps not essential. Suppose, for example, that instead of amortizing the fixed property cost, including the capitalized overheads, in the ten years assumed as the useful and actual life of the property items involved, the fictional accountant had chosen to avoid completely such amortization, or any provision in lieu thereof. The day of withdrawal of the property from service would have come at just the same date as if amortization had been provided, and the lack of provision for amortization would merely have had the effect of requiring that the entire book cost of the property be charged off to Surplus Account? Hence the net result of failure to provide adequately during the period of use for amortization of the book cost would be misstatement of the net income throughout the ten years assumed as the useful life of the property, the misstatement being brought up short when the day of retirement of the item of property arrived.

(At this point in his address, the author cited other cogent illustrations of problems in the arithmetic of utility accounting. Space does not permit their publication in full in this issue of the MONTHLY.—*Editor*)

Have the illustrations cited any common significance? Perhaps they have served to show, as many others of diverse natures could, how frequently, and in what important ways, accountants must choose between the alternatives of making charges to the current expense accounts or causing the deferment thereof, sometimes far into the future. Perhaps they have also served to show the arithmetical certainty of the passage of any given expenditure through

(Continued on page 452)

National Accounting Conference Is Outstanding Success

F. B. Flahive

LEADING accountants from all parts of the country participated in the Third National Accounting Conference sponsored by the Edison Electric Institute at the Edgewater Beach Hotel, Chicago, November 13-15, which proved to be one of the most successful and significant meetings in recent years. Under the leadership of B. S. Rodey, Jr., chairman of the General Accounting Committee of the Institute, a distinguished group of speakers discussed a wide variety of utility accounting problems. Hundreds of delegates, representing many of the major companies in the country, paid close attention to the proceedings.

F. B. Flahive, of the Columbia Gas & Electric Corp., New York, chairman of the Accounting Section of the American Gas Association, spoke briefly at the meeting. Mr. Flahive emphasized the spirit of cooperation evident among various types of accountants and pointed out that the status of this branch of the utilities had greatly improved in recent years due largely to the combined efforts of the various interested trade organizations.

One of the principal speakers at the conference was P. S. Young, chairman of the Executive Committee of the Public Service Electric & Gas Co., and director of the American Gas Association of which he is a past president. In a thorough-going definition of the accountant's position Mr. Young stressed the fact that the accountant today is an interpreter as well as a recorder of facts.

"Today, the trained accountant has become an important part in the conduct of modern business enterprise," he said. "He is indispensable in the utility field, with its multitudinous problems presented by taxation, regulatory rules, valuation and rate determination, issuance of securities, and financial reports, not to mention the volume of operating and statistical data so necessary to present-day operating efficiency.

P. S. Young

"The manifold operations of the commercial departments of utilities outside of the sales departments, are largely accounting functions," Mr. Young continued. "The utility accountant is closely associated with the utility engineer in the operation of utility properties."

With increased influence and opportunity the accountant, serving as a counsellor of management, faces increased responsibilities, Mr. Young counseled. "No longer can he wait for management to assign specific tasks or to point out all its problems. He is obligated to keep resourcefully abreast of business demands and also to anticipate them."

To meet these responsibilities, Mr. Young urged the modern accountant to acquire a broad foundation in training and education as well as a technical knowledge of accounting.

F. L. Griffith, vice-president of The Peoples Gas Light & Coke Co., Chicago, and past chairman of the A. G. A. Accounting Section, presented a valuable paper entitled, "Utility Arithmetic and the Utility Accountant," which is abstracted on the accompanying pages of this issue.

CP Sales Hit Record High

ALTHOUGH Spring gas range sales are usually better than Fall, September sales of CP gas ranges topped all previous monthly records, leading the former peak month of May, 1939, by over 11 per cent.

Symposium on Gas in New Homes

- **Recognizing the tremendous possibilities in the new home market, the American Gas Association through its architects' and builders' program, all-gas home projects, and cooperation with local and federal housing authorities, has done its utmost to stimulate the use of modern gas appliances in the all-important building field.**
- **This national program has been implemented by aggressive, intelligent local programs in various parts of the country with signal success. Three of the most progressive and fruitful of these programs were outlined in a symposium before the Commercial Section during the annual A. G. A. convention in New York, October 9-12 and are reprinted here.**
- **Mr. Leinroth speaks for the East, Mr. Banks for the West and Mr. Potter for the Southwest. Each has a valuable story to tell, based on actual successful experience, which may be applied with profit in your own territory.**

Housing Trends Favor Gas

By J. P. LEINROTH

Public Service Electric & Gas Co., Newark, N. J.

WHY the emphasis on getting gas in new homes? Is it justified? I believe so for two principal reasons.

First, because additional business is obtained.

Second, because of its psychological and advertising value and its important relation to the replacement market.

The first needs no comment. We do, however, sometimes lose sight of the importance of the second which, in my opinion, often transcends in importance the first.

Human beings are instinctively interested in homes and as a result many go through new homes. Some of them are interested in buying; some are interested in getting pointers for the homes they have in mind building soon; the majority have little thought of buying or building but are interested in getting ideas to use in improving their own homes. They all are consciously or unconsciously impressed with what they see which they look upon as the "latest." If they see a particular type of construction, decoration or appliance often enough they come away distinctly favorable toward it. More often than not when the time comes to improve their own homes they act upon what they saw in the new homes they visited. Having any particular type of equipment in new homes which is seen, not once, but again and again represents advertising so effective and of such subtlety that we in the gas industry cannot help but take account of it.

We are in a time when we are seeing changes in housing trends. First, there is a definite trend to low price housing. I quote from the Architectural Forum of April, 1939.

"In prosperous 1929 more than 56% of all U. S. non-farm families were earning $2,000 or more per year. In the depths of the Depression (1933) this income group shrank to 17%, and, according to the latest available figures (1935-36). Recovery has only meagerly replenished the ranks of this group until today it holds 25% of the total. These are the families who can afford to own or rent houses costing more than $4,000—houses on which building has stubbornly concentrated at least 65% of its efforts during the past nine years."

We are undoubtedly seeing today more emphasis being put upon low price homes and less on the larger and more expensive homes.

Second, any one going through speculative house developments today will, I believe, be impressed with the following:

A relatively large amount of money is being spent on fitting up kitchens and bath rooms.

Automatic heat of some sort is usually standard in even the low-priced homes.

Insulation is usually used at least to some extent.

Gentlemen, I submit that the combination of a small insulated home, with automatic heat being demanded as standard equipment and with emphasis being put on kitchens and bath rooms, is a set-up almost made to order for us in the gas industry. For we all know that the smaller the heat loss of the house the better the gas heating story; small homes and insulation make for this. Fine bath rooms cannot be complete without automatic hot water service; and a kitchen with all of the latest improvements must have the best in cooking appliances.

Gas heating can well be the spearhead of our attack. For if gas heating is installed gas for water heating naturally follows, gas for cooking is practically assured and our chances for getting the refrigeration load are much enhanced. Should another fuel be selected for heating, we are going to have difficulty getting the water heating load and the chances are that we shall be left with only the cooking load—and none too secure in that.

An interesting study has been made by the House Heating Subcommittee on New Homes relative to this point. This report is available for distribution and I recommend that you read it carefully. It represents a study of 1,909,404 meters in manufactured and mixed gas districts for the year 1938. In 96.8% of the gas-heated homes gas was used for cooking against 90.0% in oil-heated homes. In 99.0% of the gas-heated homes gas was used for water heating as against 5.4% in oil-heated homes. In 47.7% of the gas-heated homes gas was used for refrigeration as against 10.6% in oil-heated homes. It seems to me that these figures speak for themselves

(Continued on page 444)

Following New Construction

By F. M. Banks,

Vice-President, Southern California Gas Co., Los Angeles, Calif.

FOLLOWING new construction is something like a three ring circus. There is always plenty going on to keep your interest and you don't know what is going to break loose next. The effort of getting gas used for the 4 Big Jobs is one that deals with people's fancies. Not alone the hard cold facts of cost, convenience, etc., but "vogue" too must be reckoned with.

Consider the beguiling feminine headgear, for example. Every year a new style, referred to as the latest. I don't know where the styles are created, but I've been suspicious of some of them. The point is, however, are those hats designed for utility sake? Not at all. They are hats for vogue, hats for style, hats to attract attention—that's all. Some years hats are good looking, other years not, and some years—well, why say it. Ask women why they buy them, and there is one reason and only one—*They just must be in style.* They couldn't bear to have other folks think them not among the first with the latest.

Now I have no quarrel with style. It is a reality; something we must deal with in addition to providing appliances which will perform with greater satisfaction. Unfortunately, we are slow to realize that our competitors were building into the public mind the thought that electricity is *modern* and stylish. It matters little what modern means—our public must learn to consider our service among the stylish and modern services of this day. For the 4 Big Jobs our equipment surpasses that of our competitors in many ways, but that alone isn't enough to get results.

Let me give you an example to indicate that people are thinking of appliances in terms of vogue, style and modernity.

Recently a government-supported private housing project of over 1100 units agreed to use electric water heaters and refrigeration, and they purchased 300 electric ranges in order to secure free underground electric service and subsidy on electrical appliances. Tenants had their choice of gas or electric ranges which are furnished by the project. First units were recently completed. We interviewed the first two tenants on their first day of occupancy.

The first, asked why she chose the electric range said, "Oh, it's so wonderful. I just love it." When asked if she used it, she replied that she had cooked a little on a top burner. Asked if she had used the oven, she said, "No, but I know I will like it. It is so modern." The second tenant was even more profuse in her praise. "Beautiful, so modern. I just love it." Asked if she had used it, she ruefully displayed an aluminum tea kettle, the bottom of which had been distorted. You see, she had poured out the hot water and set the vessel back without turning off the element. She had forgotten to because she saw no flame.

Was she discouraged? Not at all. For her that range had style, modernity. Our

(Continued on page 444)

This new home in New Jersey has a "Join the Swing to House Heating by Gas" lawn sign which is widely used in territory of the Public Service Electric & Gas Company

Building Load in New Homes

By H. Vinton Potter,

Oklahoma Natural Gas Company, Tulsa, Okla.

IN order that you can appreciate our problems and solutions, you must know a little of the history of Oklahoma. It was only thirty-two years ago next month that the state was admitted to the Union; and at that time, Tulsa, now a city of 165,000 people, was only a crossroad. Natural gas was developed as one of our outstanding resources along with the rapid development of oil; and as cities grew, it was quite natural that people should use this fuel for all of their wants.

Naturally, people who are using natural gas according to their own ideas are not using it to the best advantage; and it is for us to develop standards of living which will not only contribute to people's comfort, but also will make them appreciate the quality of our service, and at the same time, increase our load per customer. This is particularly true in house heating where the natural tendency has been to use space heaters and make-shift appliances.

In water heating, our problem too is to increase the customers' use of gas through giving them a greater appreciation of the many things which can be done best with hot water; and our drive to make sure that heaters are insulated is a recognition of the fact that in our comparatively hot summers, people have a tendency to do without the use of hot water, rather than heat up their kitchens; because, after all, many of our homes have no basements and the water heaters are in the kitchen.

The large influx of people into our rapidly growing cities has placed a premium upon homes, and builders are profitably opening new additions—filled with homes built for speculation. Naturally, these homes are built to sell at a profit, and because of this, architects and builders are inclined to lay emphasis upon their own pet ideas rather than to consider the necessity for adequate house heating and water heating—which, unfortunately, are not as conspicuous in a home as are beautiful wall papers and trick gadgets.

We, like you, are faced with the problem of trying to get our methods across to the architects who make the plans and who, as a rule, have a professional pride which builds a wall between them and us which is hard to surmount. They have their pet ideas and if a customer gives them $5,000 to spend in building a home, it seems that $4,950 is budgeted for this and that, and when they get to the last $50, they insist upon buying some kind of heating and water heating for mere pennies.

Unfortunate it is, too, that when the budget must be cut, the first thing to suffer is plumbing and heating. Fortunately, however, this is not true in all cases; and builders who have listened to our story about indirect heating especially, are enthusiastic in their praise. One man, who is the rental agent for several hundred homes in Oklahoma City, is authority for the statement that, when he leaves it up to the customers to provide their own house heating in the form of separate space heaters for each room, it is necessary for him to redecorate the homes once a year at an average cost of $50. By installing a floor

(Continued on page 454)

LEINROTH ON HOUSING

(Continued from page 442)

and constitute an eloquent argument for going after "GAS FOR ALL FOUR."

We have been doing a lot of thinking about our domestic load during the past few years. We have been confronted with some social trends which have made the going pretty hard at times. You all recognize these social trends—less cooking and washing being done in the home, the tendency toward apartment living, eating away from home, the increased use of precooked foods, the release of domestic servants, the decline of home baking and preserving, the increased employment of married women and many others. They have all taken their toll. But the trends in home building we are witnessing today are distinctly favorable to gas and we are missing a tremendous opportunity if we do not capitalize on them. I am sure we shall.

How far the present trends will go is anybody's guess but all the forces, governmental and otherwise, are favoring the small and still smaller home. I believe we must be prepared to heat very small homes, many without basements, with circulators and similar appliances rather than central heating plants. We may be called upon to radically change our thinking with regard to methods of house heating. We must keep our minds open and not be bound by tradition. It is of the utmost importance that we be alert to these trends and give our best thought as to how we may capitalize on them.

Speculative Builder's Problem

The selling of "GAS FOR ALL FOUR" to new homes is not easy. It takes time and perseverance. For the built-to-order home owner it is not so hard as the speculative builder. We must try to see the builder's problem. He is in business to sell homes; he often looks upon gas heating as a deterrent to its sale. Fortunately we have made much progress by dint of hard work to overcome this obstacle.

We must first sell the builder on gas heat so that he would install gas if he were building a home for himself. Having got that far he still often insists that, while he is personally sold on gas, the average person is not and that he is not in the business of selling gas heating but of selling homes.

To overcome this obstacle we in our company first got him to agree to leave the form of heating optional with the buyer and give us the names of any prospects to work on.

Next we got him to install gas heating with the proviso that we would take it out if we could not sell the buyer on gas heating. We prepared some mimeographed sheets over the name of the builder addressed to the buyer of the home with a comparison of gas versus oil costs and reasons why the builder arrived at the conclusion that gas heating was best. Our men were on hand to discuss gas heat with visitors. If all of these failed he could fall back on our promise to remove the gas heat. Besides we made some contribution to the advertising of the first builder who was willing to install gas heating in low-priced homes as standard equipment.

With this first builder these tactics were so successful as to exceed our fondest hopes. The first twenty-seven homes went up and were sold with practically no opposition to gas heat on the part of the buyer. We were fortunate in that these homes were of such good value that they sold much more quickly than those of his competitors. We used this development to prove that gas house heating was an asset rather than a deterrent to the sale of the home. Gas heating as standard equipment was installed in increasing amounts but to get the "ball a'rollin" it was necessary to concentrate on one builder—a recognized leader and one who built houses that would sell—and get him to standardize on gas heating. Our progress in getting gas heating in speculative homes dates from that accomplishment.

Cooperating with Signs

We have found that where a builder will install gas heating in his development it is often advantageous to contribute to the cost of his signs and billboards. The name of our company does not appear but the fact that the houses are heated with gas stands out prominently. We feel that such signs are much more effective than those where the message is over our company name. The builder looks upon this as a friendly gesture on our part and a willingness to help him sell his houses.

It is important that builders be given close and steady attention. It often takes considerable time and effort before tangible results are obtained. He is taken to other developments where gas heat is standard, his salesmen are carefully trained so that they know the gas story and can meet any objections prospective buyers offer. We have found it advantageous to have special men who concentrate on such work. These men work closely with the other salesmen who are brought into the picture at the opportune time and get the credit for the sales.

We have found that lawn signs are very effective. At first some builders objected to these signs. We overcame many of these objections by having the builder's name appear on the signs. These signs are metal, with suitable braces and with the wording "AND ANOTHER HOME BUILT BY JOHN DOE HAS JOINED THE SWING TO HEATING BY GAS" with the standard emblem. Seeing sign after sign of the same character cannot help but impress passers-by and here we have a distinct advantage over our competitors, in which group each manufacturer uses a different type sign.

The selling of gas heat to the realtor is also an important factor which should not be overlooked. And of course the architect must receive attention. We have carried on considerable work with the idea of educating these groups both personally and through dinners and meetings.

What of the immediate future? How will an increase in general business activity effect residential building? While it may be early to form any very definite opinion on this point yet it is reasonable to assume that better business should bring with it increased incomes, less unemployment and fewer on relief. Workers will seek better quarters, those who have "doubled up" will seek their own quarters, many who have hesitated to build will be urged to by the desire to hedge against rising prices. Rents will increase, making it more profitable to own a home. All of these forces will tend to more residential building and one cannot appraise the situation with regard to home building trends without seeing in them a great opportunity for the gas industry. It behooves us all to be alert to it.

BANKS ON NEW CONSTRUCTION

(Continued from page 443)

job is not to argue against style, but to promote it.

One reason why following new construction is so important is that new homes are setting standards for millions of our present customers. We must see that they are standards acceptable to us.

The proper sort of sales and advertising activities should serve as an important background for turning new construction to gas.

In our case we support and appreciate American Gas Association national advertising. We participate in Pacific Coast Gas Association advertising in addition to a fairly comprehensive program in approximately 200 daily and weekly newspapers.

We participate with manufacturers to provide unified and worthwhile cooking appliance exhibits in local fairs, food shows, orange shows and the like.

We maintain permanent model kitchen displays at an architects' building and at other locations, including some department stores.

We have gone so far as to assist some style controlling home furnishing stores to acquire an Electrolux franchise. Thus they will talk and advertise "all-gas" kitchens and maintain all-gas kitchen displays. They also cooperate in furnishing some "all-gas" model homes.

In addition, we also carry on a model home activity. While we build no homes of our own, we do contribute to some, and participate upon a variety of bases in many "all-gas" model homes. In our experience, builders are anxious to have the advantage of our publicity and participation. It gets results for them and for us.

We are conducting a modest advertising program in the Sunday issues of the metropolitan papers advising people to visit "The House of the Week." It's a different

one each week and, of course, it's all gas. Results have been tangibly evidenced by "before and after" attendance figures.

Participating in American Gas Association contests and promotions has paid us well. Perhaps we've been lucky to have as many architect and builder prizes land in our territory; perhaps we have good architects. In any case, it has stimulated much valuable interest.

As a part of our architects' program we stage an annual dinner for architects. Before the evening gets too far along we usually work in some educational matter on gas—as pleasantly and dramatically administered as possible. Good evidence of their appreciation of it is the fact that tickets are always at a premium—I know they must appreciate it because there can't be that many of them just hungry for a free meal!

We also prepare quarterly an architect's pamphlet on some pertinent phases of the gas story. The cover each time depicts a typical or a well known fireplace and mantle—something an architect is pleased to have. And we have had numerous requests to complete the series for those who have lost some one or more.

For some 2000 active builders of small homes we change the cover. These pamphlets serve as a little door opener for our architect contact men and also help our builder contact men to some extent.

Kitchen Planning Service

Our kitchen planning service is actually used. We know this because in one case a fellow used our design of a kitchen and put all electric appliances in it. However, our planning department is busy and demands grow. The service is available to architects, builders and certain types of dealers, who can offer it to their customers.

Turning to the schools, we hold periodic dinners for the Home Economics teachers. Our metropolitan Junior and Senior High Schools, by the way, are almost 100% equipped with high quality clock-controlled ranges on a ratio of about 13 gas ranges to each electric range and this didn't just happen.

Also we have concluded that we cannot effectively preach modernity unless we live it. Old offices are being modernized, rented quarters abandoned when warranted, and modern structures of our own erected with adequate floor space for displays.

CP Range campaigns and the like tend to create public consciousness of the newness of our appliances.

All of these activities help pave the way for our new construction follow up.

Southern California Gas Company serves approximately 700,000 residential customers, largely in individual homes. At present, we have more than 10,200 dwelling units in course of construction with 30 field representatives at work. Contact with the customer begins immediately upon receipt of information by advance notice, building permit notice or other source of information.

Each new job is recorded in duplicate on a form which, when completed, furnishes a running record of calls made, when made, whom interviewed, owner, architect, builder, etc., and lastly the equipment finally installed. One copy is the field card and the other is cardexed and watched for progress made, the office card being posted after each call. Doubtful jobs get special attention, but jobs reported as sure nevertheless receive on an average of four field calls, because we are never sure until the appliances have been installed and so reported.

The first call is probably most important. Our representative may state that he has called to check gas service requirements to determine if pipe sizes are adequate and correctly located. He inquires when the house will be started, states that he will work with the contractor so that the meter location opening will be proper and will cooperate so that the service line

An excellent illustration of effective outdoor billboard advertising is this design used by the Kansas Public Service Company, Lawrence, Kansas. John T. Andrews is commercial manager of the company.

will be installed when digging will be least inconvenient. He then asks to see the plans, perhaps suggests a radio outlet, says something complimentary about the plan arrangement. This type of approach works and usually before our representative leaves he has been through the old house, catalogued the appliances in use and learned the occupants' intentions regarding the new home installation.

Each field and office record is advance dated for the second call as the salesman indicates. If doubtful, calls are made as often as deemed advisable. If customer indicates gas for all uses, the second call is made usually between 15 and 30 days after construction starts. The builder or boss carpenter is interviewed.

Our representatives solicit aid from the contractor and architect, most of whom now favor gas. They offer services of a representative of our Home Planning Bureau; present a booklet on how kitchens are planned, dealing with color, appliance arrangement, draperies, decorations and other home suggestions. "All-Electric Homes" are few. Some time ago the electric interests began to erect illuminated signs in front of "All Electric Homes" under construction, which referred to the home as all electric. We met this skirmish with a barrage of less expensive "All Gas Home" signs on a ratio of about 20 to 1. Somehow our signs would promptly disappear but our boys were rather obstinate. They kept renewing them particularly where they would do the most good. We don't use them any more—neither do the electric folks.

What we term normal jobs average four calls, the last being the call after occupancy to service appliances. At this time a complete inventory is taken and recorded. This completes the efforts of the new construction representative. If old or obsolete appliances have been moved in, leads are forwarded to the Merchandise Sales Department.

Doubtful jobs require more contacts.

It is my opinion that generally our utilities are backward about keeping dealer outlets properly posted and adequately trained to tell a good gas story. I am not unaware of the fact that dealers function best where market acceptance is already established but, in greater or lesser degree, leaders can be helpful.

New homeowners meet many a dealer, in one way or another—why not be fairly sure the dealer tells him a sound story about gas. You have a stake in dealers, why not arrange to provide dealer educational programs. If you do it, well they'll attend. And if you think they don't need it, then let me suggest that you shop some dealer floors. You'll be amazed at the sort of presentation being made to the public—perhaps even by your own sales people. And who is going to train dealers about gas if we don't?—The answer is, no one!

In our territory well over 90% of new homes are being equipped with gas ranges; over 90% with gas water heaters; about 91% with gas space heating; 80% are equipped with mechanical refrigeration, of which 19.4% are gas. New gas refrigerators are used 38.3% as often as new electrics, but in some areas new gas refrigerators actually exceed all new electrics.

All-Gas Home Program to Continue

Recognizing that the boom in residential construction will continue during the coming year, the A. G. A. ALL-GAS HOME Program sponsored by the American Gas Association through the Home Appliance Planning Bureau, will be continued through 1940. Full information and details including advertisements, publicity, and other literature on the subject of promoting, demonstrating and publicizing of ALL-GAS HOMES is available to all member utility companies upon request to J. W. West, Jr., director, Home Appliance Planning Bureau, American Gas Association, 420 Lexington Ave., New York, N. Y.

32,000 Industrial Gas Prospects at Metal Show View Improved Heat Applications

NO salesman could call on 32,249 people in a week—or even a year. But 32,249 members of that great American industrial fraternity which is the metals and metal manufacturing business did attend the 1939 National Metal Congress and Exposition at the International Amphitheater, Chicago, October 23-27.

This army of representatives of potential and actual gas-using concerns from all over the country saw industrial gas equipment in working displays at the American Gas Association Combined Industrial Gas Exhibit in a manner which could not help but result in a higher regard for our product.

Gas Exhibit Largest at Show

The A. G. A. Combined Exhibit covered no less than 6,000 square feet of floor space—the largest single unit at the show—and included the displays of 11 leading industrial gas equipment manufacturers, all joining forces in a huge key location provided and uniformly decorated to maximum advantage through the efforts of the A. G. A. Industrial Gas Section's Committee on Displays at National Industrial Expositions and the cooperative support of 21 utility companies within 200 miles of Chicago. Without question the 1939 Combined Gas Exhibit "topped" all previous participations by the gas industry in metal shows—in beauty, in scope, in attention value, and in sales effectiveness.

As each visitor entered the Amphitheater through the main entrance and past the registration desk he was confronted with the gas exhibit stretching on either side of him for a distance of 80 feet. Three main aisles tempted him into this area and among its dramatic component units. Even if he turned right or left to one of the hall's two wings he knew that gas was at the show for on the outside of the exhibit back walls flanking all aisles were effective slogans in six-inch red letters on a yellow background proclaiming:

For *Speedy* Heat Treatment Join the Swing to GAS
For *Economical* Heat Treatment Join the Swing to GAS
For *Dependable* Heat Treatment Join the Swing to GAS
For *Accurate* Heat Treatment Join the Swing to GAS

Similar central panels carried the name of the American Gas Association and its Industrial Gas Section along with listings of cooperating manufacturers and gas companies. On either end of the aisle running longitudinally within the exhibit area were lounge spaces whose back-walls carried, respectively, a striking enlargement of the trend-chart logotype used in all national A. G. A. industrial advertising, and copy proclaiming that "The trend today is to

A gas man, Fred M. Reiter, Dayton Power & Light Co., brings his customers to the show —J. S. Richards, American Steel & Wire Co.; J. W. Wanner, Delco Products; J. W. Carl, Simonds, Worden, White, Inc.

GAS—because gas 'streamlines' production through accurate control of temperature and atmosphere over any desired time-cycle." Finally, a circular bench from the center of which rose the traditional, though modernized, pylon of flame, offered a vantage point in the center of the gas industry "show within a show," and a convenient spot for getting down to cases with customers and prospects.

"New Principles", Not Just "Redesigns", Featured

Significant was the fact that of all the scores of gas-fired units exhibited by the 11 cooperative equipment manufacturers, few were of a type which even existed as little as five or six years ago. At least two-thirds of the apparatus on display was "news" to the metal industry, rather than mere redesigns of old familiar equipment.

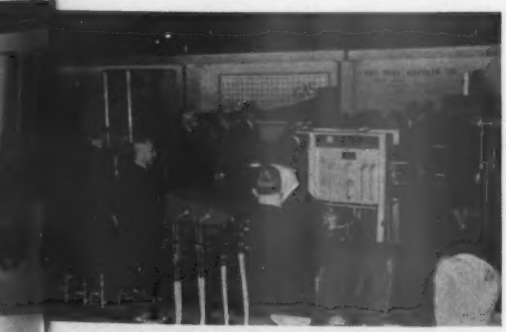
Above is a bird's-eye view of the industrial gas exhibit, which was the largest at the metal show, while at right are three booths with typical crowds of interested prospects. The variety of gas equipment shown and the latest refinement in gas heat applications were a revelation to the metal industry

In the *American Gas Furnace Company* space, for example, was shown a new type bell furnace of amazing flexibility and ingenuity. Its alloy muffle-bell carried its own sand seal in an alloy tray simply linked to lugs around the edge of the bell's open bottom, and was fitted with an atmosphere inlet and a packed vertical rod through the top from which work might be suspended within the bell. As a result of this design, work to be quenched can be carried from furnace to quench tank within the hot inverted bell and be fully protected by atmosphere gases all along the line.

An after-breakfast huddle of key men. Left to right, Frank Adams, Toledo, Ohio; Franklin T. Rainey, Columbus, Ohio, chairman of the Industrial Gas Section; William Thompson, St. Louis, Mo.; Eugene D. Milener, New York, N. Y.; Ed Kreutberg, editor of Steel*; and D. W. Chapman, Chicago, chairman of the display committee*

Again, A. G. F. showed its popular continuous clean-hardening unit in which small parts in bulk are inched along through an alloy muffle by jarring. Attention was also won for this exhibitor by two long benches attractively displaying the newest in small industrial gas appliances and blast burners. Prominent among them was a convertible bench forge, which, by the mere replacement of the banded top brick with a similar refractory element, could be converted into a useful, though tiny, oven furnace. In small machine shops and garages, such a unit would be invaluable.

Along with interest-winning scale models of recirculating annealing furnaces, heat treating machines, and drying ovens, *Continental Industrial Engineers* displayed a stationary muffleless gas carburizing furnace in full operation. This firm also made much of its "top hat" line of bell annealing covers, photographically presented on a jet black silk hat 3 feet high.



Volume water heating for parts washing and factory shower rooms, as well as process steam generation, had its inning in the *Sellers Engineering Company* booth, where the new variety of horizontal immersion tube unit, said to be capable of higher guaranteed efficiencies than ever before offered, was shown along with the nucleus of a growning line of gas burners and blast tips.

Air Heaters, Boilers, and Draw Furnaces

The *Despatch Oven Company* featured two unusual units in its space. One was an indirect industrial air heater rated at 500,000 B.t.u. per hour and possessing 71,000 square inches of radiating surface in vertical fire-tubes terminating in an extra-heavy bottom protective plate such that the radiated heat from the combustion chamber could not strike the tubes themselves and reduce their life. It was claimed that this new method of fire tube construction minimizes tube cleanage and increases heating efficiency.

The other unit was a direct-gas-fired recirculating air heater, novel by virtue of an adjustable baffle just beyond the combustion chamber which is purported both to reduce the noisiness of the equipment and to increase its overall heating efficiency from 50 to 300 per cent depending upon the application. The baffle not only permits an additional adjustment of the volume ratio between heated air and combustion products, but gives control over the back pressure in the combustion zone.

The wide variety of gas applications useful to metal men was key-noted in the area utilized by *Eclipse Fuel Engineering Company* to display eight of its proudest products: the Dowtherm boiler for higher temperatures than can be achieved with steam units, a new adjustable gas-air carburetor, a tangentially-fired pot furnace, an underfired hardening unit, a complete ignition system line, the self-contained "gas gun" just introduced to the trade last year, a noteworthy immersion tube water heater, and a huge air draw furnace in operation. Recording thermocouples demonstrated the significant point that the air draw furnace maintained absolute temperature uniformity at all points throughout the charge and extreme temperature constancy hour after hour.

A new and unusual feature incorporated in the immersion tube water heater was the lining of fire tubes and flue collar fittings with high-bake Heresite enamel so as to permit the attainment of minimum flue gas temperatures (and corresponding maximum efficiencies) without encountering corrosion problems due to condensation from combustion products.

For the Small Shop or the Giant Industry

A swing over to the *Charles A. Hones, Inc.* space revealed a complete line of burners and small pot and heat-treating furnaces, all operated on city-gas pressures and all atmospheric equipment requiring no blower or power. Notwithstanding, work-chamber temperatures as high as 2700° F. were obtained in full muffle units. Equipment such as this brings many of the benefits of gas fueling to smaller shops and factories who do not feel justified in buying accessory power equipment but want to do their own heat treating.

F. X. Mettenet, vice-president, The Peoples Gas Light & Coke Co., addressing the "Make-the-Most-of-the-Metal-Show" Breakfast which brought gas men, exhibitors and editors together at the metal show

For quite the opposite market, *The C. M. Kemp Mfg. Co.* showed their finest in carbureting equipment, recirculating radiant tubes, and immersion soft-metal-melting elements. Kemp also showed a large submerged combustion head, now offered on the open market for the first time, which makes possible the extra-high efficiency evaporative heating of liquids (chiefly in the chemical industry) by means of actually burning complete gas-air mixtures under water and letting the products of combustion bubble up through the bath.

Displayed as adapted to a cutaway tank, the burner was mounted on a swivel so that it could be swung free of the bath for lighting or other manipulations. Lighted panels and display arches also informed the metal industry that Kemp had entered the field of adsorptive dryers for industrial dehumidification.

The Paul Maebler Company and its subsidiary, General Combustion Utilities, sported a Hercules among gas-fired recirculating convected air heaters—the unit being rated at 1,000,000 B.t.u. per hour. In addition, they demonstrated flexible hot air ovens of a type generally used for core drying, special industrial baking, and low-temperature heat treatment.

In the controls field, *The Partlow Corporation* again showed its quality line of mercury-filled temperature indicators, recorders, and controllers; but also had set up for push-button demonstration and actual operation a *new* complete automatic safety-flame ignition system.

The system was particularly noteworthy because it incorporated a new time-delay relay (providing up to 5 minutes for purging), as well as a time-interrupter which continued to spark the ignition gap at regular intervals until the gas was ignited or a pre-determined time cycle before shut-down was completed. The other elements in the hook-up were from the standard Partlow line, but, in conjunction with the two new timing devices, constituted a system which offers industry a new high level in the control and protection of gas-burning equipment.

It-Can't-Be-Done Tricks With Ceramic Burners

When it comes to achieving the unusual in industrial gas combustion, *The Selas Company* is always in evidence—even as they were at this A. G. A. Combined Industrial gas Exhibit with a radiant-fired furnace in which the roof was actually cooler than the floor (although the seven thermocouples which were scattered through the furnace in the most embarrassing positions showed a total temperature variation at near-white heat of less than 20° F.).

On a table of amazing burners, which stopped more passers-by than, perhaps, any other single element in the combined gas show, were included: a ceramic ribbon burner from the end of which protruded a rod the curious could push back and forth, thus blocking out any fraction of the flaming ribbon he so elected; a pin-point torch concentrating stupendous heat in the minutest of areas; a special burner for sealing paper milk bottles by radiant heat thrown sidewise; a ceramic fishtail burner intensely heating along a surprisingly narrow line; and a gas-fired refractory unit of blinding brilliance, at least 3,500 degrees F. white hot.

The grandest "staging" of the gas exhibit was provided by *The Surface Combustion Corporation,* who placed a matched team of their new Char-Mo atmosphere furnaces (one for preheat and one for full heat) in a Ziegfeld setting, and had an operator constantly at the job of heat treating, without soft skinning or decarburization, sample tool bits.

Spotted prominently in the lounging space provided for visitors to the Surface Combustion booth were panels showing actual products being austempered, Eutectrol carburized, bright annealled, and clean hardened in outstanding Surface Combustion installations. For the passer-by with an urge to operate something himself, a "Flame-o-Lator" in the Lagoon-of-Nations mode allowed anyone to throw flares of colored flame (red, yellow, green, blue, violet, and mixed) high above the heads of the crowd.

Coordinated Plans Laid Over Bacon and Eggs

That was the show! But its effectiveness lay not only in what was displayed, but in the alertness of those in attendance at the exhibit and in their cooperation with the numerous gas men who visited the joint display with their customers and prospects.

To insure coordinated effort, and to draw together all industrial gas men attending the metal show and all representatives of exhibiting manufacturers, the A. G. A. Industrial Gas Section staged a "Make-the-Most-of-the-Metal-Show" Breakfast at the Palmer House, October 24, the first morning after the opening of the Exposition. Franklin T. Rainey, general sales manager, The Ohio Fuel Gas Company, Columbus, Ohio, and new chairman of the A. G. A. Industrial Gas Section, presided and called upon D. W. Chapman, chairman of the Committee on Displays at National Industrial Expositions, to outline from his perspective what had been done for gas at the metal show and what action could be taken by each of the 70 attending the Breakfast by way of making the combined effort of maximum benefit.

Featured speaker was F. X. Mettenet, vice-president, The Peoples Gas Light and Coke Company, Chicago, who stressed the importance of the industrial gas load to the gas industry, and paid tribute to the mounting spirit of aggressiveness both among non-residential gas men and manufacturers of non-residential gas equipment. Honored guests at the breakfast were the editors of leading national metal magazines, who have had no little part to play in the growing appreciation of our service by the wide and varied interests in the metal field. Editors, Kreutzberg of *Steel,* Haydock of *American Machinist,* Steinebach of *Foundry,* Oberg of *Machinery,* Wishoski of *Industrial Heating,* and Thum of *Metal Progress,* were applauded as they were introduced.

For the most successful gas industry participation in the leading national exposition of our largest single industrial gas customer classification, the metal field, credit must go not only to the Display Committee of the A. G. A. Industrial Gas Section and the 11 exhibiting manufacturers, but to the following gas companies, each of whom contributed its share to make the gas show possible: Battle Creek Gas Co., Central Illinois Electric & Gas Co., Central Illinois Light Co., Central Illinois Public Service Co., Central Indiana Gas Co., Citizens Gas and Coke Utility, Consumers Power Co., Gary Heat, Light & Power Co., Illinois Northern Utilities Co., La Porte Gas & Electric Co., Madison Gas and Electric Co., Michigan Fuel & Light Co., Milwaukee Gas Light Co., Northern Indiana Power Co., Northern Indiana Public Service Co., Peoples Power Co., Public Service Co. of Northern Illinois, The Peoples Gas Light and Coke Co., Western United Gas & Electric Co., Wisconsin Fuel & Light Co., and Wisconsin Public Service Co.

The effective unifying decorations of the combined exhibit were effectively handled by Harry Swenson, manager, display section, The Peoples Gas Light and Coke Company, Chicago. On duty at the exposition at all times were two representatives of the industrial department of The Peoples Gas Light and Coke Company, as well as Eugene D. Milener and Harry W. Smith, Jr. representing the Industrial Gas Section of the American Gas Association.

New Cooking Unit

THE gas industry has been asking for modern, streamlined gas counter appliances," begins the letter with which Majestic Manufacturing Company, St. Louis, this month introduces its new Grid-L-Ator with outstanding style, thermostatic control, convenience, and economy features—and right they are! So insistently has the gas industry been asking for higher styling and better designs in counter equipment, that we are pleased to take this opportunity to say a good word for Majestic's new unit and to point out what it can do to help in building fatter non-residential gas cooking loads.

The manufacturer claims for the unit a saving of from 25 to 50 per cent in gas consumption over ordinary griddles of corresponding sizes, and makes much of the temperature uniformity attained over the griddle, as well as of the closed front. We are most impressed by the cleanliness and beauty of the unit—because, in our opinion, any food customer's appetite and zest for a repeat call is directly proportional to the opinion he forms of the apparatus upon which he sees his food prepared.

Counter griddles are among the most familiar and widely used of commercial gas cooking appliances, and your lines undoubtedly supply fuel to hundreds or thousands. No one has to tell you what type of an impression the average griddle makes to the eye. Maybe it's time to step up to a few of your good counter cooking customers and say, "Why don't you let your short order equipment *sell* your food as well as cook it?"

Air Conditioning Show

THE sixth International Heating and Ventilating Exposition will be held at Lakeside Hall, Cleveland, Ohio, January 22 to 26, 1940. It is presented under the auspices of the American Society of Heating and Ventilating Engineers in conjunction with the society's annual meeting. The National Warm Air Heating and Air Conditioning Association will also hold its annual meeting at Cleveland during the same week.

Midwest Industrial Gas Sales Council Presents Varied Program

Section of the audience at the Midwest Industrial Gas Sales Council meeting, hemmed in by publicity designed for their assistance

BY scheduling its fall meeting concurrently with the National Metal Congress and Exposition, the Midwest Industrial Gas Sales Council of the Industrial Gas Section, American Gas Association, attracted attendance from a wider area than usual to the Palmer House, Chicago, October 26, 1939—but it wasn't the time, place, or publicity that made the meeting an outstanding success—it was the program. Everything from dead John Dillinger's finger prints to the competitive fuel situation was analyzed, with the result that 75 gas men from Kansas to New Jersey went home with a file full of plans.

William M. Riach, Jr., sales engineer, The Peoples Gas Light and Coke Company, and 1939 Chairman of the Council, opened proceedings by calling for a report from the Chairman of the Competitive Fuels Committee, who noted the quarters from which most intensive competitive attack may be expected and indicated what the Committee was doing by way of supplying ammunition for counter action.

In the first formal paper of the day, Elmer F. Cook, American Gas Furnace Company, Elizabeth, N. J., described equipment and outlined methods for "Promoting the Application of Standardized Industrial Gas Equipment." Some fifteen slides made it clear that standard gas-burning equipment is applicable to a wider range of types and sizes of production operations than is commonly appreciated.

Another phase of the selling problem, "*Your* Industrial and Commercial Gas Publicity as A Sales Tool"—and one never before fully discussed before the Council—was interpreted by Harry W. Smith, Jr., director, industrial publicity, American Gas Association, New York. Mr. Smith's presentation included displays of all the national publicity, together with the media used, obtained in behalf of non-residential gas departments by the American Gas Association in 1939, and was italicized with props and action which kept the group guessing as to what was coming next. How to use publicity in individual selling programs took precedence over the treatment of its scope and methods of procurement.

After lunch came: John Dillinger's finger prints, fascinating case histories in scientific criminal investigation, and how the lie detector can make an honest man out of a banker—from the authoritative C. W. Muehlberger, Cook County Coroner's Toxicologist. Mr. Muehlberger included much in his talk concerning gas explosion, bombing and carbon monoxide poisoning cases.

Back from bullets and bombings to the business of the day, the crowd shifted its attention to "Modern Heat Treating Methods and Applications" presented by W. A. Darrah, president, Continental Industrial Engineers, Inc., Mr. Darrah traced recent progress with gas in surface heat treatments of steel, particularly gas carburizing.

The meeting adjourned at 4 P.M., in adequate time for plentiful idea-swapping before dinner, and an evening at the A. G. A. Combined Industrial Gas Exhibit on the floor of the National Metal Exposition at International Amphitheater.

Industrial Appointments

CARL WIERUM and John B. Frost have been appointed industrial sales manager and assistant industrial sales manager respectively of The Brooklyn Union Gas Company. Mr. Wierum succeeds Frank B. Herty, who resigned. Mr. Frost succeeds Alva L. Palmer, who has been appointed Industrial Utilization Engineer.

Every day more than 1,200,000 Americans eat in some 4,000 "diners"—those now familiar short-order establishments compactly fitted into structures resembling railroad cars and scattered wherever traffic is heavy along highways, in towns, and on corners of city blocks. Have you counted the "diners" in your territory and figured the non-residential gas market they offer in griddles, counter stoves, urns and coffee maker sets, deep fat fryers, broilers, refrigerators, and steam tables? Credit risk? Jerry O'Mahoney, world's leading builder of "diners" says that less than two per cent of his customers fail.

GOING AHEAD *with Industrial Gas*

There are few subjects of more natural, ready-made interest to your customers than air conditioning—and there's mighty little about the present status of summer air conditioning that isn't covered, right up to the minute, in the reports of Charlie Bellamy's Industrial and Commercial Air Conditioning Committee. The new 1939 report is now available—and it, along with the news-making 1938 report, adds up to a 100-page gas man's text book (on a none-too-well-understood subject) that can't be equalled at any price. Get both reports—and if you don't learn a lot, you can apply for the title of "super-expert" in a fast-moving field.

You've probably noticed the new technique in our National Industrial Gas Advertising this year. What do you think of it as a non-residential gas salesman? Let us have your suggestions. Here's one poker hand that's played best with a maximum of kibitzers. And (incidentally) what do you do with the reprints of the ads we send you every month?

Walter D. Crouch, industrial and commercial sales manager, Robertshaw Thermostat Co., is serving his fifth term as Mayor of Tuckahoe, N. Y.—in the busy Metropolitan area. Walt's friends are proud of the fact that he was the first mayor in the country to organize a housing commission, and to install three-way radio in police cars.

Two-bits you never thought of this one—as a no-tank water heater market: In England where wet weather is the rule and the law demands that workmen's overcoats be dried while their owners labor, clever gas engineers string long loops of 1¼" pipe in a vertical plane below rows of metal factory coat hooks, and keep that pipe at 140° F. with a 30 cu.ft. per hr. recirculating gas water heater. At the end of the day lucky workers cut the fog homeward snuggled in warm dry togs. Suggest this stunt to your swankiest hotel or club. What workmen and the law demand in Britain might give an American coat room just that "touch" which makes gossip.

Every single news item or feature article your Industrial Publicity Committee prepares and places (almost 500 of them per year) is specifically designed to help you sell—not just to fill space. But you can add to the value of this program to you. How? Write for a copy of the recent Convention paper, "Your Industrial and Commercial Gas Publicity—As a Sales Tool."

Restaurant Combines Old and New Services

GAS provided both its oldest and its most modern services to mankind the week of November 13 as Gage & Tollner's, Brooklyn's oldest and most widely known restaurant, celebrated its sixtieth anniversary.

Gas fixtures which half a century ago shed a soft, enchanting light over Brooklyn's elite as they dined at the famous oyster and chop house were lighted again, recalling the days when life was unhurried and when good food amid pleasant surroundings was considered well worth a long drive by horse and buggy—plus a ferry ride—from distant Manhattan.

Also lighted, as part of the anniversary celebration, was a new gas-fired hot-air furnace, which henceforth will heat the restaurant.

The gas lights and the gas heat are symbolic and significant. They symbolize two basic tenets of the restaurant's credo: Retain the best of the past and add that which is good in the new.

The original bronze chandeliers, each holding four fish-tailed gas burners, hang from the gilt ceiling. Incidentally, it is a tribute to the lifetime character of gas equipment that the burners, though they have not been used for many years, needed but to be turned on and lighted to perform for the anniversary celebration as they had done a half century ago.

INDUSTRIAL & COMMERCIAL NATIONAL ADVERTISING FOR DECEMBER

The Advertising Committee of the Industrial Gas Section, J. P. Leinroth, chairman, and F. B. Jones, vice-chairman, announces that full-page advertisements will appear in the following trade and business magazines during the month of December.

MAGAZINE	DATE	TOPIC
Metals Industry		
The Iron Age	December 14	Gas-fired radiant tube furnace cuts annealing cost—Wilson Steel and Wire Co., Chicago, Ill.
Steel	November 27	
Metals and Alloys	December	
Metal Progress	December	
Industrial Heating	December	
Food Industry		
Bakers Helper	November 25	Gas cuts fuel costs, increases quality of baked goods—J. Weingarten, Inc., Houston, Tex.
Bakers Weekly	November 25	
Food Industries	December	Gas speeds production, in Dad's Cookie Company, Birmingham, Ala.
Ceramic Industry		
Ceramic Industry	December	Gas has record of 80 years' continuous use in melting glass for bottles—J. T. & A. Hamilton Glass Bottle Co., Pittsburgh, Pa.
Hotels and Restaurants		
Hotel Management	December	Modern Gas Equipment handles twice as much food at no increase in gas cost—Hotel Rochester, Rochester, New York.
American Restaurant	December	
Chain Store Age (Fountain and Restaurant Section)	December	Variety of modern counter cooking gas appliances available today.
Hospitals and Schools		
Modern Hospital	December	Modern gas equipment pays for itself in savings—Hudson County Almshouse, Secaucus, N. J.
American School Board Journal	December	Speed, economy and convenience with modern gas equipment—College of New Rochelle, New Rochelle, N. Y.
Processing Industry		
Chemical & Metallurgical Engineering	December	Gas meets exacting requirement of varnish cooking—Pittsburgh Plate Glass Co., Newark, N. J.
General Manufacturing		
Industrial Power	December	Uniform dependable firing with Gas in forging plant of General Metals Corporation, San Francisco.

Gas-Broiled Steak Wins Approval

(From *The New Yorker*)

OVER near the other end of Forty-fifth Street, at 837 Second Avenue, is the Palm, which, let me warn you, is a tough-looking little spot but which, I think, serves pretty nearly the best shell steaks in town.

The Messrs. Ganzi and Bozzi, who run the place and enjoy a steady following of newspaper people, moan at not having room for a charcoal grill, but the results they achieve with ordinary gas broilers would fool practically anybody, and I can't feel sorry for them. Indeed, everything is so snug that it seems to me wisdom on their part not to add to the premises, even though you can't always get a table when you want it.

Order a steak for one if you must, but it's much better to find a cooperative companion and order one for two. A steak for three is even more remarkable, though the time it takes to cook may be longer than your patience.

If, later in the evening, you see a smiling, inarticulate, pint-sized fellow shuffling around, that's the chef, Domenico. Go ahead and beam at him; he deserves it.

Yes, Domenico, we are beaming at you, and besides we'll bet your gas-broiled steaks are better than you could get from charcoal.

WATER HEATING

(Continued from page 431)

and then the customer consumption and revenue for the one year following the installation of the heater; in every instance the customer living in the same home for both years. The results have shown that there has been a 70 per cent increase in consumption and a 31.6 per cent increase in the revenue of the 460 customers thus far surveyed.

From these figures, our management is now assured that gas automatic water heating is desirable and that every selling force should be put to work to increase the percentage of our customers using this service.

Sound selling, backed by aggressive merchandise planning, can sell automatic gas water heaters and add gas revenue for you.

Technical SECTION

A. M. Beebee, *Chairman*
D. P Hartson, *Vice-Chairman*
H. W Hartman, *Secretary*

The Effect of Thermal Value on Distribution Costs

By Leo H. East

Rochester Gas & Electric Corp., Rochester, N. Y.

ONE of the most important papers presented at the Technical Section of the twenty-first annual convention of the American Gas Association was entitled "Load Factors and Increment Costs in Transmission & Distribution of Gas" by Edward L. Fischer. It seems to me that every gas engineer should read this paper for it contains many original and fundamental concepts with reference to our future business.

We have heard about load factors, diversity factors, increment and marginal costs for many years but I believe that Mr. Fischer has for the first time presented a complete and thorough-going analysis of these subjects. His conclusions differ radically from the usual thoughts of gas men with respect to the cost and desirability of low load factor business. It thus behooves us, in these times when our industry is seriously suffering from depressed net income, to investigate thoroughly the possibilities of increased business as shown so clearly by Mr. Fischer's paper.

House Heating Cost

The cost involved in added gas house heating is a subject of extreme interest. Many studies of this subject have been made by A. G. A. committees in recent years. I refer particularly to the work of the committee on "Doubling the Present Maximum Hour by Means of House Heating" (A. G. A. Proceedings 1927 and 1928) and the House Heating Committee report (A. G. A. Proceedings 1936).

The conclusions arrived at by both of these studies agree completely with the findings of Mr. Fischer; namely, that considerable house heating can be added to most systems with little or no additional investment in transmission and distribution facilities. We found for example that our company can double its present maximum hour by means of house heating with an added transmission and distribution investment of only $41.00 per house heating customer. (Some 4,500 additional customers are involved.) The transmission and distribution system of most companies has considerable latent capacity that can be utilized to supply relatively large house heating loads with very small added investment.

Likewise the report of the 1936 committee indicated that the increment cost of the house heating business is low regardless of whether one considers an old or a new system. In this connection L. J. Willien of the Public Utility Engineering & Service Corporation has reported to us that a city served by his company has recently increased the house heating business from zero to 25% saturation at an added cost for distribution facilities of $31.80 per customer. This figure compares with $22.73 per customer for 20% saturation as shown in the committee report.

There is one other point I would like to discuss in connection with Mr. Fischer's paper. He has stated that while the cost of pipe lines varies directly with the diameter, the capacity of the lines varies as the 8/3rds power of the diameter. This means, as he has pointed out, that the increment cost of capacity above the base load is small indeed. *It is similarly true that the investment necessary to supply natural gas is a considerably higher per cent of the investment for manufactured gas than the ratio of the B.t.u.'s would indicate.* The mathematical derivation of the investment relationship is as follows;—

The fundamental expression of flow, pipe diameter and specific gravity in gas pipe lines is:

$$Q = K \times \frac{D^{8/3}}{g^{1/2}} \text{ where}$$

Q = Flow
D = Pipe diameter
g = Specific gravity
K = Constant

Now let:—

Q_m = Flow with manufactured gas
Q_n = Flow with natural gas
D_m = Diameter with manufactured gas
D_n = Diameter with natural gas
g_m = Specific gravity with manufactured gas
g_n = Specific gravity with natural gas

Then, $Q_m = K \times \frac{D_m^{8/3}}{g_m^{1/2}}$ and

$$Q_n = K \times \frac{D_n^{8/3}}{g_n^{1/2}} \qquad \text{(Equation I)}$$

If the same number of B.t.u.'s are to be transported with both gases,—

$$Q_m \times H_m = Q_n \times H_n \text{ or } Q_m = Q_n \times \frac{H_n}{H_m}$$

where H_m = Thermal value with manufactured gas
H_n = Thermal value with natural gas

Then, $Q_n \times \frac{H_n}{H_m} = K \times \frac{D_m^{8/3}}{g_m^{1/2}}$

(Substituting in Equation I)

$$\text{and, } K \times \frac{D_n^{8/3}}{g_n^{1/2}} \times \frac{H_n}{H_m}$$

$$= K \times \frac{D_m^{8/3}}{g_m^{1/2}} \qquad \text{(Equation II)}$$

Since the cost of a pipe line system is directly proportional to the pipe diameter:—

$$C_m = K_1 \times D_m \text{ or } D_m = \frac{C_m}{K_1}$$

$$\text{and, } C_n = K_1 \times D_n \text{ or } D_n = \frac{C_n}{K_1}$$

where C_m = Cost of system with manufactured gas
C_n = Cost of system with natural gas
K_1 = Constant

Then,—

$$\frac{\left(\frac{C_n}{K_1}\right)^{8/3}}{g_n^{1/2}} \times \frac{H_n}{H_m} = \frac{\left(\frac{C_m}{K_1}\right)^{8/3}}{g_m^{1/2}}$$

(Substituting in Equation II)

Solving the equation for C_n

$$\left(\frac{C_n}{K_1}\right)^{8/3} = \left(\frac{C_m}{K_1}\right)^{8/3} \times \frac{g_n^{1/2}}{g_m^{1/2}} \times \frac{H_m}{H_n}$$

$$\frac{C_n}{K_1} = \frac{C_m}{K_1} \times \left(\frac{g_n^{1/2}}{g_m^{1/2}}\right)^{3/8} \times \left(\frac{H_n}{H_m}\right)^{3/8}$$

$$C_n = C_m \times \left(\frac{g_n}{g_m}\right)^{3/16} \times \left(\frac{H_m}{H_n}\right)^{3/8}$$

From the above expression it is obvious that the cost of a natural gas system is equal to the cost of a manufactured gas system times the ratio gravities raised to the 3/16ths power times the inverse ratio of heating values to the 3/8ths power.

As an example, let us assume that 1,000 B.t.u.—.6 gravity natural gas is substituted for 500 B.t.u.—.5 gravity manufactured gas,—

Then

$$C_n = C_m \times \left(\frac{.6}{.5}\right)^{3/16} \left(\frac{500}{1000}\right)^{3/8}$$

and $C_n = .80\ C_m$

This indicates that the necessary investment in transmission and distribution lines with natural gas is 80% of that of manufactured gas. Thus while manufactured gas requires the transportation of larger volumes for a given number of B.t.u.'s, the increased cost of capacity for this lower thermal value gas is obtained at a substantial reduction in the cost per unit capacity due to the cost of the pipe lines varying directly with the diameter while the capacity varies as the 8/3rds power.

It is therefore apparent that the manufactured gas industry is not under a large handicap because of its lower thermal value gas. The determining factor in the costs of the two gases is the production cost per therm. The manufactured gas industry need not shy away from low load factor business but can proceed to add this type load with the knowledge that the economics are fundamentally correct.

UTILITY ARITHMETIC

(Continued from page 441)

the expense accounts at some time or other, and hence the lack of any permanent benefit to be obtained from deferment insofar as the holder of the utility's securities is concerned. Perhaps another significance may also be drawn from them, namely that the security holder's interest may suffer actual and irreparable detriment from deferment of any charges not definitely and logically assignable to a future period.

Obviously, the mere fact that an item is charged to current expenses instead of being deferred into a future period is no guarantee that current utility rates will provide reimbursement therefor as well as an adequate return on the utility's property value. However, if there is any uncertainty in this respect, is it not immensely more uncertain that future rates will provide revenues sufficient to insure recoupment of the monies represented by charges unnecessarily or inappropriately deferred from the present into those future periods? It is to be remembered that conceptions of proper rate making processes are presently, and always, changing or in prospect of change, and that the mere presence of a certain number of dollars in the property account does not guarantee any particular treatment of the sum involved when a utility's rates are under review.

Conservative approach to these questions of deferment would seem to require the accountant to take a flatly realistic view, on the basis of which he might look to the future not as a rosy term of years in which his utility will be able to make collection of any charges he may find a plausible occasion to defer thereto, but as a period, instead, wherein it will be difficult to obtain revenues sufficient to provide the bare necessities in the way of then current expenses and return. In the long run, I believe our regulating authorities, and the customer as well, would respect such an approach to today's problems in the arithmetic of utility accounting.

Reprinted from New York *Sun*.

"It's the boss and his practical jokes again!!"

Dining Above the Clouds

WHEN you first hear that the dinners served in the swiftly moving air liners, high above the clouds, are cooked on gas ranges, you stop to wonder. When you glance at the menu and consider its generous proportions, you continue to regard both the fact of its cooking by gas and its abundance with awe.

But there is no miracle of gas ranges which fly through the air. Instead, there is a story of the wonders worked by the clever engineers and far-seeing managers of the United Air Lines to meet the unique problem of feeding thousands of flying passengers.

A commissary system which in 1939 will serve 500,000 meals in the air, from coast to coast, is the result. Preparing the right kind of food with an appeal to appetites as varied as the scenery over which the luxury liners fly daily is big business. It requires a series of commissaries supplemented at intermediate stations by concessionnaires.

At the commissaries where chefs use gas ovens and ranges to cook the dishes for an air journey, the hot foods are quickly placed in insulated vacuum containers, the cold dishes in other vacuum holders. Loaded into especially designed compartments, these are wheeled quickly to the galley of the waiting plane.—FLORENCE BROBECK in *Today's Home*.

Distinguished Homes Have Gas Heat

INCREASED recognition for gas heating is seen in the fact that a large percentage of distinguished homes, selected by *House & Garden* magazine for display in their November issue were heated by gas. Section II of that issue consisted of a portfolio devoted to "30 Distinguished Houses and Plans," 12 of which were equipped for gas heat. All of the houses were illustrated and most of the major specifications listed as well as the names of the owners and architects.

Business Is Human

THE *Villager*, a publication issued in the Greenwich Village section of New York, in a recent issue stated that the last two gas lamps on Manhattan Island, hanging in MacDougal Alley will be completely repaired by the Consolidated Edison Co. of New York, Inc.

Both lamps will be renovated and put back in place at the expense of the company, which will also continue to furnish the gas "so that the beloved beacons can go on shedding their light." The article says that the flicker of the ancient lamps has delighted thousands of villagers and visitors to the neighborhood for generations.

In its leading editorial, headed "Business Is Human," the same publication says that once again a great corporation has proven that it appreciates the significance of tradition and the grip it holds on the hearts and minds of many people. After all, says the editorial, a corporation is made up of human beings who react to sentimental impulses just as other humans do. In this case, the corporation (Consolidated Edison) quibbles not over a comparatively trifling expense, but makes provision without hesitation or red tape to do its part in preserving the nation's last gas lights.

Hudson Joins Laclede

WILLIAM A. HUDSON, formerly with the fuel division of the United Gas Corporation of Houston, Texas, has joined The Laclede Gas Light Co., St. Louis, Mo. Mr. Hudson, who had years of experience in sales work with gas utilities, will succeed Lee A. Brand, resigned. Mr. Hudson will supervise both househeating and water heating sales divisions.

Laboratories

N. T. Sellman, *Chairman, Managing Committee*
R. M. Conner, *Director*
W. H. Vogan, *Supervisor, Pacific Coast Branch*

Laboratories Serve Industry on Utilization Problems

By Milton Zare

American Gas Association Testing Laboratories

THE testing and certification programs of the American Gas Association Testing Laboratories are, it is believed, familiar to practically every one in the gas industry. Likewise, their various research activities are generally known. However, it is not commonly appreciated that the Laboratories also serve the industry on utilization problems and in other ways, supplementing their primary functions.

The close contact which the Laboratories enjoy with the gas utilization field places them in a particularly fortunate position to dispose of numerous inquiries for suggestions and recommendations on problems of this nature encountered by the industry. A very large proportion of such cases can be satisfactorily handled by correspondence. Some, however, require extensive investigation involving in certain instances the conduct of detailed tests. In view of the number and scope of the problems presented, it is felt that a brief review of some of the activities in which the Laboratories have recently participated may be of interest.

Mixed Gas Problems

Since the Laboratories' investigation on gas mixing problems some years ago, they have been requested on numerous occasions to consider proposed changeover and gas mixing problems in the field. More and more, the Laboratories are being regarded as a consultant in such matters. A recent investigation on the combustion characteristics of typical gases distributed throughout the country by means of a standard precision burner, expressly designed for securing this data, contributed considerably to the great fund of information which has been accumulated on gas mixing problems. By use of the Mixed Gas Formula, calculations can be made to determine the resulting characteristics of a proposed gas supply in a comparatively short time. From these computations the Laboratories are enabled to determine the effect on appliance performance likely to be brought about by substituting one kind of gas supply for another.

Our Laboratories are frequently called upon to assist municipalities in preparing ordinances affecting the installation and use of gas burning equipment. Such inquiries involve not only the preparation and enactment of ordinances but their administration. One of the most common problems of this nature concerns flue connections for domestic gas ranges and low input water heaters. Similar problems are presented by individual utilities as well as interested manufacturers.

In many instances, modern equipment with its refinements and improvements in both construction and performance over previously approved models are not covered by established ordinances which in many cases are of some years standing. Whereas, the Laboratories' approval requirements are under constant revision in keeping with rapid progress in the development of the art of gas appliance production, city ordinances unless periodically brought up to date may not adequately cover newer types of equipment.

A number of instances have occurred in which the data presented by the Laboratories made possible the clearing up of misunderstandings which had arisen. As a clearing house for new developments on gas appliances and for information on current requirements, the Laboratories are well qualified to assist any interested organization in preparing appropriate standards for gas equipment.

Federal Cooperation

Cooperating extensively with the various federal agencies interested in gas appliances, our Laboratories have been successful in numerous instances in obtaining acceptance of American Standard Requirements by these administrative groups. As a matter of interest, the Federal Housing Administration recently ruled that only Laboratories' approved gas appliances should be installed in homes and projects endorsed and financed by that body. At the request of the Federal Housing Administration, the National Warm Air Heating and Air Conditioning Association was organized to draft specifications for heating and air conditioning equipment. After thorough review of current American Standard Approved Requirements for Central Heating Gas Appliances and explanation of their various provisions these requirements were adopted.

On numerous occasions material and data are supplied on request to members of our Association and other groups for their review and consideration. Under supervision of a joint committee of the Technical and Natural Gas Sections, the Laboratories have participated in the work of Commitee D-3 on Gaseous Fuels of the American Society for Testing Materials. The importance of this work to the entire industry is generally recognized.

Preparation of Material

The Laboratories have also participated in the programs of a number of Association meetings and those of other similar organizations, as well as in the preparation of material for use in these meetings. Much correspondence is received by the Laboratories from staff members as well as chairmen and secretaries of Association committees. As an example, mention may be made of the work of the Special Committee for Improving Domestic Appliances which previously prepared requirements for Certified Performance ranges and the work now under way by the same group in drafting similar requirements for water heaters.

Very practical proof of the importance of the significance our Laboratories possess and the part they play in the industry is given by the number of visitors calling at both our Cleveland and Los Angeles establishments. These include representatives of leading utilities and manufacturing companies in the United States and abroad. It is extremely gratifying to note that more and more foreign visitors make it a policy to spend considerable time at the Laboratories to inspect our testing and inspection operations in detail. In the last year, an unusual number of English and Australian representatives called for this purpose.

These visitors were important executives representing the production, distribution and sales departments of their companies. All were greatly interested in

The American Gas Association Testing Laboratories announce a change of address effective November 25, 1939 for the Pacific Coast Branch to 1425 Grande Vista Avenue, Los Angeles, California. All communications and shipments should be directed to the above address. The new telephone number is Angelus 1-8161.

observing first hand the actual operations of the Laboratories.

It is interesting to note that the National Gas Association of Australia has established a program of "badging" appliances employing an emblem somewhat similar to the Seal of Approval. Thus, these visits are of great value in disseminating our program throughout the world and demonstrate the significance of our Laboratories' contribution to our industry.

Another important category of the Laboratories' service to the industry concerns the dissemination of material and information of our testing and certification program to various libraries, educational institutions and consumers' educational classes. The number of such requests for material and information from these sources has increased considerably during the past year and may be accounted for by the far-reaching effect of our Association's national advertising campaign.

Many inquiries are for our publications which are intended to be incorporated into home economics courses or for distribution by home extension study courses conducted by an increasing number of state universities. Much interest in the Laboratories' activities is displayed by such classes and on several occasions groups of students have visited the Laboratories including a large number from distant locations. Such contacts have been of great value in familiarizing these persons with current activities and have created a large amount of favorable comment. They are regarded as a most important contribution to the good of the entire industry.

The various activities enumerated above, in addition to the regular scope of testing, inspection and research activities of the Testing Laboratories, are the means by which the American Gas Association cooperates with the gas and gas appliance industry. It is believed that the comments and recommendations submitted by the Laboratories on their experience with gas appliance and gas utilization problems and the dissemination of various publications to interested members of our Association and consumers, are essential to the welfare of our industry and are necessary in "rounding out" our services.

Laboratories' Head Urges More Research

R. M. Conner

SPEAKING before the Society of Gas Lighting in New York City on November 9, R. M. Conner, director of the American Gas Association Testing Laboratories, outlined the Association's testing and research program and emphasized the need for more research to solve the gas industry's problems. "Research is now the crying need of the gas industry and has been for many years," he said.

Among the research projects described by Mr. Conner in his address were the mixed gas study culminating years of work at the Laboratories, a program of investigational work on pipe joints, fundamental studies on various phases of industrial gas applications and, more recently, the gas range and water heater projects directed by the Committee on Domestic Gas Research. All of these projects, he pointed out, have resulted in important benefits to the industry.

In comparing our position with that of the electrical industry, Mr. Conner pointed out that the gas industry, with less than one-fifth the total amount of invested capital, annually distributes approximately seven times as much energy (exclusive of its uses for the production of carbon black) in the form of heat as the electrical business does for heat, light and power. The gas industry also enjoys an advantage in the cost of transmission and distribution, as well, as in the cost of equipment which utilizes the energy or fuel, he said.

Despite these obvious advantages, Mr. Conner declared, we have strong competition because we have not made the use of gas sufficiently attractive. "In other words," he said, "we should still further improve our utilization practices." Therefore, he concluded, in the immediate future "applied research represents the field wherein we should confine the greatest proportion of our activities."

POTTER ON NEW HOMES

(Continued from page 443)

furnace, however, it is necessary to redecorate only once in three years at a cost of $50—thus saving the price of a floor furnace many times over.

Now, a word as to what we have done to remedy this situation. First, we sent out a series of letters to all architects and builders and prospective homeowners—trying to make them realize that "first things come first"; and that a house is a home only when it is provided with the things which will give continued comfort. We made these letters up two ways—one; so that we could send them out, and another series so that dealers could send them out to people with whom they are well acquainted.

We also set, as one of the jobs of our various sales managers, the frequent contacting of builders and architects, in order that we can offer them the services of our company in relieving them of the responsibility of heating layouts; and in that way assuring the customer that this phase of the work would be done according to the best practices. This has resulted in many such requests for help.

Feeling, however, that we had not gone far enough, we called a meeting last summer of our master plumbers in Tulsa, and asked them how, especially in water heating, we could help them most in getting people to appreciate the advantages of automatic insulated heaters. After many good suggestions were advanced, one fellow made the suggestion that we must go to the customers over the heads of the architects and builders and make them realize the importance of good water heating in their homes, and make them demand it as a necessary part of every home.

Hot Water Slogan

From that meeting, we originated the slogan—"Before You Build, Buy, Rent, or Move, Be Sure Your Home Is Equipped with the Kind of Automatic Hot Water Service Your Family Deserves." We followed this up with several series of water heating advertising—trying to expand the customers' acquaintanceship with the uses for hot water, featuring the fact that 150 uses for hot water are present in every home, as compared with 10 for cold water—that hot water cleans from 2 to 20 times faster than cold water—and that hot water for health and beauty is more than a slogan.

We took this same story to the customers regarding heating and have consistently played up the idea that adequate heating for health is essential. The law of self-preservation is one of the first rules of life and this health angle, we are sure, is having its part in making people conscious of the fact that uniform heating throughout the house is essential.

Each summer, too, we have given employees bonuses for finding new customers for the company, either in sections of town where we have not extended our main or along our main lines or in new communities where it would be economically possible to run extensions. We have also paid them for contacting folks building new homes and assisting them in making their application for service—believing, of course, that a favorable contact with a prospective customer would be valuable to us and would give us an opportunity to recommend the kind of equipment which would make a more satisfied user and increase our potential load.

Many of our employees have caught the spirit of this effort and, when house-hunting, have first of all asked the landlord—much to his embarrassment—where the floor furnace and automatic water heater were. Obviously raised eyebrows, when he said the house was not so equipped,

have, we are sure, led to a renewed interest on the part of the homeowner in this equipment and have led him to the belief that these are essential if he is to get his price and keep his tenants.

This summer, we have also sponsored a number of demonstration homes so that more and more people could see what modern uses of gas would do for them in their own homes. Our best example of this program is in Tulsa, where we placed a home in the American Gas Association Building Contest and won for Tulsa one of the major prizes. In Shawnee—a city of 25,000 people—two homes are placed on display—featuring all four jobs being done by gas. In Oklahoma City, while we are here today, 14 homes are being opened to public inspection, and each one of them features good gas heating and automatic water heating.

More Hurdles To Come

In this brief time, it is very hard to give an adequate explanation of what we are doing, and I must hasten to say that we are not completely satisfied that we have arrived even yet, because as soon as we get over one hurdle we find many more that confront us. Just before I left, however, I checked with one of the local contractors and found out that during the past year, he has taken care of the heating and water heating equipment for 75 of the new homes being built in Tulsa for the low income group of office workers and small salaried employees. Most of these homes sell for from $3,000 to $4,500; and in every one of the 75 homes, floor furnaces have been installed, and completely automatic gas water heaters are standard equipment.

Not all of these water heaters were insulated, but at least, we have got to the point where this particular builder has found it necessary to specify in the plans for these low cost homes that they must be equipped with floor furnaces and must have automatic water heaters. This is a long step from even two or three years ago, when homes which were in this class were not supplied with any form of heating at all and the water heating equipment was only a bare galvanized tank with a very cheap side-arm heater.

Evidence of our progress in taking this story to the customer over the head of the builder and the architect is also found in the fact that a contractor has just announced plans to build 80 homes in our colored section of town. Several of these are already under construction, and every one of them is to be equipped with a floor furnace and water heater.

It is interesting to note, too, that the local office of the Home Owner's Loan Corporation at our insistence has incorporated in all of its specifications the fact that homes shall be equipped only with A. G. A. approved appliances; and on all repossessions, they are asking us to check over the heating equipment and suggest revisions—which they are making as fast as we make the surveys.

Our contacts with the life insurance company's agent here in Tulsa has resulted in the sale of two carloads of floor furnaces for immediate installation in property which they own; and it is interesting to note, too, that this universal acceptance for gas in our territory has been brought about in the face of coal prices ranging from $.75 to $2 per ton—because, after all, the coal from stripper mines is available in nearly every city we serve, and fuel oil at $.03 per gallon is available in abundance. An interesting call was received by the fire department in Oklahoma City last year from an excited customer who said she actually saw smoke coming out of a chimney and thought they ought to investigate it right away.

From this, you can see that the acceptance for gas is unquestioned, and our main problem is to encourage an intelligent and increasing use for our service by acquainting people with its manifold blessings. We are now at the stage where we are converting people from the use of separate room heaters to the use of a floor furnace, and as soon as we get them all using one floor furnace, we'll turn around and sell them another one for heating the back rooms; and as soon as we have two in every house, we'll try to get them all to use central heating plants.

In water heating, we are gradually getting them to the point where they are demanding automatic 24-hour service. Our next job is to see that they accept the insulated heater, so that the use will continue throughout the summer months, and give us the year-round load which is essential for straightening out our peaks and valleys.

Turkey Contest Spurs Gas Heating

A TOTAL of 4,267 heating appliances were sold by the Gas Service Company, Kansas City, Mo., new business departments in the annual fall heating turkey contest. The campaign opened on September 11 and closed on November 11.

During this period the new business departments sold a total of 445 gas-designed furnaces and boilers, 770 conversion burners, 263 unit heaters, 1,408 large size space heaters, 277 floor furnaces and 1,104 radiant and small heaters. The department succeeded in obtaining 87.7 per cent of their quota.

Statement of the Ownership, Management, Circulation, Etc., Required By the Acts of Congress of August 24, 1912, and March 3, 1933

Of American Gas Association Monthly published monthly except July-Aug. which is combined at Brattleboro, Vt., for October 1, 1939.

State of New York, County of New York, ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared James M. Beall, who, having been duly sworn according to law, deposes and says that he is the Editor of the American Gas Association Monthly and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, American Gas Association, Inc., 420 Lexington Ave., New York, N. Y.; Editor, James M. Beall, 420 Lexington Ave., New York, N. Y.; Managing Editor, None; Business Managers, None.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

American Gas Association, Inc., 420 Lexington Ave., New York, N. Y.; President, Conrad N. Lauer; Vice-Presidents, Walter C. Beckjord, T. J. Strickler; Treasurer, E. R. Acker; Managing Director, Alexander Forward (all of 420 Lexington Ave., New York, N. Y.).

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is . (This information is required from daily publications only.)

JAMES M. BEALL, Editor.

Sworn to and subscribed before me this 25th day of September, 1939.

(Seal)

LAWRENCE P. BROWN,
Notary Public, Queens Co. No. 196, Reg. No. 4628
Cert. filed in N. Y. Co. No. 243, Reg. No. 1-B-162
Commission expires March 30, 1941

Adopt Uniform System of Accounts

THE Federal Power Commission, acting under the natural gas act, on November 7 adopted a "uniform system of accounts" for natural gas companies, effective Jan. 1, 1940. The system of accounts was adopted by the commission after considering oral and documental evidence and briefs filed at hearings, which it held in Washington, D. C.

Chairman Clyde L. Seavey said the uniform system of accounts "should go a long way toward assuring practically nationwide uniformity in the rules and regulations governing the accounts of natural gas companies." The system was developed in cooperation with the committee of the National Association of Railroad and Utilities Commissioners and with other state and Federal agencies. It is similar to that recommended by the Railroad and Utilities Association.

The general purpose of the system is to require natural gas companies subject to the commission's jurisdiction to establish and to maintain currently uniform accounts and records of transactions which will aid the commission in the exercise of its regulatory functions and lay a foundation for the compilation of statistical and other data useful in the administration of the natural gas act and in recommending legislation.

Systematic and complete accounting for transactions of every nature between or among associated companies is required by the new system, which lays the groundwork for uniform practice in accounting for replacements and maintenance charges which in the past has been particularly lacking in uniformity.

Original cost of natural gas plant constructed or acquired must be stated in the accounts within two years from the effective date of the system. The difference between the original cost and the cost to the utility, or the book cost must be carried to an adjustment account.

Depletion is to be accounted for monthly with a pool of gas constituting a unit for purposes of computing such costs. Depreciation is to be accounted for monthly and functionalized to show the estimated amount of depreciation accrued to each functional group of natural gas plant accounts.

Mrs. Francis H. Payne Is Dead

ANNOUNCEMENT was made recently of the death on November 13 of Mrs. Francis H. Payne, whose husband is president of the American Meter Company and a director of the American Gas Association. Mrs. Payne was widely known and respected in the gas industry.

Talks on Advertising

HUGH A. MITCHELL, vice-president, McCann-Erickson, Inc., New York, addressed the sales division of the New England Gas Association at Hartford, Conn., November 17 on the subject, "Making Your Work Easier and Better."

Mr. Mitchell analyzed the gas industry's national advertising program, putting special emphasis on the ability of the campaign to create desire for the newest types of domestic gas appliances, especially the gas range, and to make the work of company and dealer sales organizations that much easier.

Debates Government Ownership

FORUM Magazine for December publishes a debate "Should Government Own Our Utilities?" in which the negative side is taken by Frank A. Newton of The Commonwealth & Southern Corporation using the title, "Socialization Means Waste." In its list of contributors to the issue the magazine states that Mr. Newton was former Chairman of the American Gas Association Rate Committee.

Sales Drive on Refrigerator

A SPECIAL "Christmas selling" drive during December by thousands of gas refrigerator salesmen throughout the country as part of the 1939 Fall and Winter refrigerator selling campaign of Servel, Inc., is announced by George S. Jones, Jr., vice-president and general sales manager of the company. Hundreds of cash and merchandise awards are offered to winning salesmen in this nation-wide contest in which hundreds of gas utilities are participating.

92 Per Cent of New Homes Gas Heated

R. O. PITMAN, new business supervisor of St. Joseph, Mo., reports a recent survey of the new homes constructed in St. Joseph for the first seven months of the year, reveals that better than 92% will be gas heated. Of these new homes, 75% have purchased their heating equipment from the Gas Service Co.

The blower type of installation is rapidly gaining favor and most of the new homes have been equipped with a gas-fired air conditioner.

Personnel Service

SERVICES OFFERED

Manufacturers Sales Manager known in gas industry desires change; wishes to connect with manufacturer who has good product. Outstanding contacts eastern utilities, distributors; excellent reputation and record and result getter. **1303.**

As sales supervisor, **salesman,** heating engineer or **factory representative.** Am a graduate engineer, have had twenty years of experience with gas utilities in gas sales work. Have had supervision and training of salesmen also. Can furnish the best of references and produce results. **1313.**

Ten years legal practice plus 20 years advertising and executive experience should make me a valuable **aide** to any **executive** either in the office or outside. Energetic, willing, adaptable. Work well with associates. Have solicited advertising, done contact work. Should do well in cooperative and association work. Accustomed to meeting executives. **1318.**

Selective selling means more net per dollar invested in sales operations. Intelligently directed **market studies** are essential as a foundation. A man with broad experience in such work, and intimate knowledge operating gas utility and appliance manufacturer problems, offers his services as **consultant** or to direct work on full-time basis. **1324.**

SERVICES OFFERED

Engineer, thirteen years' experience including design of gas equipment, burners and furnaces. Formerly research associate to U. S. Bureau of Standards for A. G. A. Laboratories. Heavy experience in air-conditioning, combustion engineering, refrigeration and sales. Desires permanent connection with utility or manufacturer. Clean cut Anglo-Saxon. (37.) **1325**

Young man (35) married, two years' university training; 14 years sales and business experience; now employed as sales manager for large natural gas company. Desires connection with utility company in public relations or sales department; any location. Salary a minor consideration to opportunity for future. **1326.**

Draftsman, three years' inventory and valuation experience on gas distribution system. Four years in telephone plant engineering department of which two years were spent in the preparation of a plant inventory. Thoroughly familiar with utility plant records and systems. Want permanent position. **1327.**

Gas engineer-manager open for position. Experienced in coal and water gas operation, high and low pressure transmission and distribution, servicing, general operating problems and public relations. Satisfactory reference furnished. **1328.**

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